Van Waters & Rogers Inc.
subsidiary of **Univar**

2723 S. Cole Road
Boise, Idaho 83709
Phone: 208/362-6545
FAX: 208/362-6548

October 16, 1995

A.4.1

Robert Almquist
Ohio Environmental Protection Agency
Northeast District Office
2110 E. Aurora Road
Twinsburg, Ohio 44087-1969

RE: Van Waters & Rogers Inc.
OHD 071 107 791
Cuyahoga County

Dear Mr. Almquisrt:

Van Waters & Rogers Inc. received your September 11, 1995 on September 20, 1995 regarding the closure sampling completed at the former VW&R facility located at 26601 Richmond Road in Bedford Heights. Over the past several years, VW&R has been conducting a soil investigation at its former hazardous waste storage pad that has resulted in identification of VOCs in shallow soils in the low part per billion range. These investigations have occurred in an area measuring approximately 10 feet by 30 feet and consisted of the drilling of ten boreholes to depths of up to five feet below ground surface and collection of 19 soil samples for VOC analysis. VW&R's investigations have been conducted in a phased manner with subsequent phases being dependent on receipt of comments from the Ohio EPA for the current phase. Ohio EPA's September 11, 1995 letter addressed our June 8, 1994 soil sampling report, the most current investigative phase. VW&R, through this letter and subsequent closure plan amendment, will address the remaining issues associated with the closure of the referenced facility. Specific issues include completion of the vertical delineation of VOCs in soil and submittal of an amendment to the closure plan that provides for closure through completion of a risk assessment.

Vertical Delineation of VOCs in Soil

VW&R will complete additional soil sampling activities adjacent to soil boring SB-10 to complete its vertical delineation effort. The VOC, 1,1,1-trichloroethane, was detected at slightly greater concentrations (i.e., 17.6 ug/kg at 3-3.5 feet and 20.5 ug/kg at 4.5 to 5 feet) at boring SB-10 during the investigative activities completed in February 1994. Therefore, VW&R proposes to drill a soil boring to a depth of approximately 6.5 feet below ground surface, collect a soil sample from the 6.5 to 7.5 depth interval, and analyze the sample for 1,1,1-trichloroethane. additional samples may be collected from this borehole depending on field observations. The sample will be analyzed utilizing EPA Method 8240.

The borehole will be logged, drill cuttings will be screened for the presence of VOCs, and a quality assurance program will be implemented as described in VW&R's July 28, 1993 soil sampling and analysis plan submitted to and approved by the Ohio EPA.

A report documenting the soil sampling activities and findings will be prepared and submitted to the Ohio EPA. Supporting documentation will be included as attachments to the report.

This investigative phase will be initiated within 45 days of receiving approval of the proposed activity from the Ohio EPA.

Closure Plan Amendment

VW&R will prepare an amendment to the approved closure plan that provides for a risk-based approach for closure of the RCRA unit a the facility. The risk assessment will be conducted in accordance with the Ohio EPA manual entitled 'Guidance for Reviewing Risk-Based Closure Plans for RCRA Units' (1993). A work plan for completing the risk assessment will be prepared and submitted to the Ohio EPA for approval prior to initiating the assessment. The conceptual approch for the risk assessment is presented in the enclosed October 10, 1995 letter from Hydrosystems Management, Inc. This work plan will be submitted within 30 days of Ohio EPA's general acceptance of VW&R's approach to achieve closure of the RCRA unit.

If you have any questions, please call or leave a message at 1-800/284-6264, extension 8455.

Sincerely,

Michael V. Gaudette
Senior Project Manager

cc: Russell Karney, VW&R

Steve Bouchard
USEPA Region V
Ohio RCRA Permitting Section - HRP - 7J
77 West Jackson Blvd.
Chicago, IL 60604-3590

HMI

Environmental Consulting Services

October 16, 1995

Mr. Michael Gaudette
Van Waters & Rogers, Inc.
2723 South Cole Road
Boise, ID 83709

RE: Bedford Heights, Ohio Site

Dear Mr. Gaudette:

This letter identifies an approach for risk-based closure of the RCRA unit at the Bedford Heights, Ohio facility. I have reviewed the soil data collected in April 1992, October 1992, and February 1994, as well as, the September 11, 1995 letter from Mr. Almquist of the OEPA. Based on a preliminary screening of risks associated with the concentrations detected in the soils, it can be demonstrated that the site does not pose a risk to human health or the environment. The risk assessment will provide information on the exposure pathways and risk levels in a format that would be in accordance with the OEPA manual entitled *Guidance for Reviewing Risk-Based Closure Plans for RCRA Units* (1993).

The concentrations detected in the soils when compared to screening levels in the USEPA Region III Risk Based Concentration Tables (March 1995), are at least two orders of magnitude lower than concentrations listed for residential soils. Concentrations in the soil samples are also lower than the USEPA Soil Screening Level (SSL) values for evaluation of the leaching potential.

The OEPA guidelines for risk-based closure of RCRA sites includes inhalation and dermal contact routes of exposure in the direct contact soil exposure pathways, whereas, the USEPA Region III RBC values are based only on soil ingestion. However, even with these additional routes of exposure added, the concentrations detected in the soils do not approach a level that would be identified as a potential threat to human health or the environment.

A specific approach to evaluating leaching potential has not been identified by the OEPA. They have identified several leaching models that are potentially acceptable. The approach suggested by the USEPA in the draft SSL manuals are consistent with some of the models that have been identified in the OEPA guidance manuals. Additionally, the OEPA guidance does states that "*if the total concentration of a individual hazardous constituent in soil, divided by 20, is less than the detection limit for an aqueous matrix, then the TCLP need not be run and Ohio EPA, DHWM*

may consider foregoing the ground water pathway." Based on review of the data, the deepest samples from all the borings would all meet this criterion. A few of the leaching simulation approaches identified in the OEPA manual are easy to explain and values can be calculated with a minimum of effort. Since all these approaches would demonstrate that the concentrations in the soils are not a concern, a very persuasive approach would be to provide OEPA with these criteria values, all supporting the conclusion that the concentrations detected in the soils have a relatively low leaching potential.

The risk assessment information will be presented in a short report format summarizing the data for the site, identifying unrestricted future use exposure scenarios for the site, and calculating the low levels of risk posed by the residual soil concentrations.

If you have any questions or require additional information regarding the approach for a risk-based closure, please give me a call at (414) 268-8871.

Sincerely,
HydroSystems Management, Inc.

Frank A. Jones, Ph.D.
Senior Consultant

D.4.1

Van Waters & Rogers Inc.
subsidiary of **Univar**

2723 S. Cole Road
Boise, Idaho 83709
208/362-6545
208/362-6548 (FAX)

February 3, 1994

Ms. Karen Nesbit
Ohio EPA
Northeast District Office
2110 E. Aurora Road
Twinsburg, Ohio 44087-1969

Re: Van Waters & Rogers Inc.
Cuyahoga County
~~OHD 017 107 791~~ OHD 071 107 791

Dear Ms. Nesbit:

Van Waters & Rogers Inc. (VW&R) will be implementing the "Soil Sampling and Analysis Plan" (SAP) dated July 28, 1993 on February 15, 1994 at the referenced facility. Soil sampling activities are expected to commence mid- to late morning.

Due to expected weather conditions at the facility, a drilling rig will be used to collect soil samples from the boreholes depicted on Figure 2 included in the SAP. A split spoon sampling device fitted with brass or stainless steel sleeves will be used to collect samples from the specified depth intervals. These samples will be submitted to an analytical laboratory for analysis as specified in our SAP.

If you have any questions, please call me in Boise or leave a message at 1-800/284-6264, extension 8455.

Sincerely,

Michael V. Gaudette
Senior Project manager

MVG

BH\CORREP\REGULATO\OEPANOT.294

cc: Wayne Grotheer, VW&R
James Hooper, VW&R
John Tobin, VW&R
Russ Karney, VW&R
Mark Bergman, OEPA
Steve Bouchard, USEPA Region V

OhioEPA
State of Ohio Environmental Protection Agency
Northeast District Office
2110 E. Aurora Road
Twinsburg, Ohio 44087-1969
(216) 425-9171
FAX (216) 487-0769

George V. Voinovich
Governor
Donald R. Schregardus
Director

July 23, 1992

RE: VAN WATERS & ROGERS INC.
CUYAHOGA COUNTY
OHD 071 107 791
CLOSURE

CERTIFIED MAIL

Mr. James P. Hooper
Van Waters & Rogers Inc.
600 Hunter Drive
Oak Brook, IL 60521

Dear Mr. Hooper:

This office received your submittal of additional closure activities report on June 26, 1992.

On April 21, 1992, Van Waters & Rogers (VW&R) conducted additional sampling activities in its former hazardous waste storage area upon this office's request. A total of four (4) samples (two soil and two concrete samples) were collected at the intersection points of the cracks and the slab joint. These samples were analyzed for volatile organic compounds, semi-volatiles and alcohols. Three volatile organic compounds (xylene, tetrachloroethane and 1,1,1-trichloroethane) were detected in trace amounts at these locations.

Clean levels for non naturally occurring hazardous waste constituents are non-detectable quantities using standard laboratory method detection limits (MDLs). MDL is defined as minimum concentration of a substance that can be measured and reported with 99% confidence that the value is above zero.

VW&R detected hazardous waste constituents that were handled in the former hazardous waste management unit above the MDL therefore could not meet the closure performance standards set forth in the Ohio Administrative Code Rule 3745-66-11. VW&R shall determine the full extent of vertical and horizontal soil contamination and contaminant concentrations. To determine the horizontal extent, a grid system or a directed system (samples along the cracks and the slab joint) should be used. Vertical sampling should proceed with certain internals until the extent of contamination is determined. All the soil samples shall be analyzed for volatile organic compounds, semi-volatiles and alcohols. Clean levels for all these parameters are non-detectable quantities using standard laboratory MDLs. VW&R shall remove and properly dispose of all the contaminated soils as hazardous wastes. Please submit an adequate soil sampling and analysis plan to this office to my attention within 30 days upon the receipt of this letter.

If you have any questions concerning this letter, please feel free to contact me at (216) 425-9171.

Sincerely,

Murat Tukel

Murat Tukel
Environmental Engineer
Division of Hazardous Waste
Management

MT/fwn

cc: Laurie Stevenson, DHWM, CO
Harry Courtright, DHWM, NEDO
Steve Bouchard, U.S. EPA - Region V

OhioEPA
State of Ohio Environmental Protection Agency
Northeast District Office
2[illegible] E. Aurora Road
[illegible]sburg, Ohio 44087-1969
(2[illegible]) 425-9171
FAX (216) 487-0769

George V. Voinovich
Governor
Donald R. Schregardus
Director

March 9, 1992

RE: VAN WATERS & ROGERS INC.
CUYAHOGA COUNTY
OHD #071 107 791
CLOSURE

CERTIFIED MAIL

Mr. James P. Hooper
Van Waters & Rogers Inc.
600 Hunter Drive
Oak Brook, IL 60521

Dear Mr. Hooper:

Thank you for your February 14, 1992 response to Ohio EPA's January 13, 1992 letter.

Based upon a review of the submittal, it appears that Van Waters & Rogers (VW&R) agreed to perform additional sampling of the former hazardous waste container storage area for demonstrating that the area was closed in a manner that prevents threats to human health and the environment. VW&R will take two additional core samples at the intersection points of the cracks and the slab joint in the concrete pad and sample them for organic compounds.

This office reviewed the sampling and analysis plan submitted with VW&R's February 14, 1992 letter and approves this plan with the following modifications:

1. VW&R shall analyze their core samples for the following organic constituents at minimum: Acetone, Benzene (total), n-Butyl Alcohol, Carbon Disulfide, Chlorobenzene, Cyclohexanone, Ethyl Acetate, Ethyl Benzene, Ethyl Ether, Isobutanol, Methanol, Methylene Chloride, Methyl Ethyl Ketone, Methyl Isobutyl Ketone, Nitrobenzene, Tetrachloroethylene, 1,1,1 Trichloroethane, 1,1,2 Trichloroethane, Toluene and Xylenes.

2. VW&R shall contact and notify the Ohio EPA Northeast District Office at least five (5) business days prior to sampling implementation so that an inspector may be present to observe the activities.

Please proceed implementation within thirty (30) days of the receipt of this letter. If you have any questions concerning this letter, please feel free to contact me at (216) 425-9171.

Sincerely,

Murat Tukel

Murat Tukel
Environmental Engineer
Division of Hazardous Waste
Management

MT/fwn

cc: Laurie Stevenson, DHWM, CO
Harry Courtright, DHWM, NEDO
Steve Bouchard, U.S. EPA, Region V

Van Waters & Rogers Inc.
subsidiary of Univar

600 HUNTER DRIVE
OAK BROOK, IL 60521-1926
PHONE (708) 573-4300
FAX (708) 573-2536

CERTIFIED MAIL #P874-113-707
RETURN RECEIPT REQUESTED

February 14, 1992

Mr. Murat Tukel
Ohio Environmental Protection Agency
Northeast District Office
Division of Hazardous Waste Management
2110 East Aurora Road
Twinsburg, OH 44087-1969

RE: Proposal for Additional Closure Activities
Bedford Heights, Cuyahoga County, Ohio
OHD 071 107 791

Dear Mr. Tukel:

INTRODUCTION

In October, 1986, operations at the Van Waters & Rogers Inc. (VW&R) Bedford Heights, Cuyahoga County, Ohio facility was moved to Twinsburg, Ohio. Anticipating an expansion of its hazardous waste business, the Bedford Heights facility and hazardous waste storage unit were kept operational, even though they were not used. At that time, a Part B permit (granted on July 18, 1985 from the Ohio Hazardous Waste Facility Board) was in existence for the facility. The approved permit also included a closure plan for the storage unit.

It was determined after the VW&R Twinsburg facility was operational that the new Twinsburg facility could operate only as a transporter; the hazardous waste storage capability at Bedford Heights was not needed. Thus, VW&R decided to close its Bedford Heights facility.

On April 12, 1988, VW&R submitted a closure plan to the Ohio EPA for the hazardous waste container storage area at the Bedford Heights facility. On October 18, 1988, VW&R requested that the April 12th closure plan be rescinded and instead, VW&R proceed with the closure of the storage area according to the procedures presented in the 1985-approved Part B permit. On January 6, 1989, Ohio EPA accepted the VW&R October 18th letter as a closure notification. Closure activities were conducted from July through October 1989. A certification for final closure of the hazardous waste container storage area was submitted to the Ohio EPA on October 31, 1989. After review of the October 1989 final closure certification report, the Ohio EPA requested on January 13, 1992,

that VW&R perform additional sampling of a concrete pad in the former hazardous waste container storage area at its Bedford Heights facility.

SCOPE OF WORK

This letter presents a sampling and analysis program for the approximately 10 by 30 feet-size concrete pad in the former hazardous waste container storage area of the VW&R Bedford Heights facility. The program will consist of the following tasks:

- Collection of concrete core samples,
- Analysis of the concrete core samples for compounds previously stored on the concrete pad, and
- Preparation of a report summarizing the sampling and analysis program.

Using appropriate sampling procedures and equipment, two cores are proposed to be hand-drilled through the concrete pad. The general locations of these cores will be toward the ends of the length-wise direction of the pad; one of the cores will be in the general location of the core sample collected during the 1989 closure activities. The exact locations of the cores will be finalized in the field and will be at the intersection points of the cracks and slab joints in the concrete pad. After completion of sample collection activities, the coreholes will be grouted with concrete.

The core samples will be submitted under proper chain-of-custody to a local laboratory for chemical analysis. The samples will be analyzed for volatile organic compounds using EPA Methods 8010 and 8020 and alcohols using EPA Method 8015. These are the same analytical methods used during the 1989 closure activities of the storage area.

Upon receipt of the analytical results, VW&R will prepare a report for submittal to the Ohio EPA. This report will include a description of the sampling and analysis program, and a summary and discussion of the results. If analytical results show detectable levels of compounds previously stored in the concrete pad, this report will include a proposal for soil sampling beneath the pad.

Van Waters & Rogers Inc.
subsidiary of **Univar**

2256 JUNCTION AVENUE
SAN JOSE, CA 95131
PHONE (408) 435-8700

June 22, 1992

Mr. Murat Tukel
Ohio Environmental Protection Agency
Northeast District Office
Division of Hazardous Waste Management
2110 East Aurora Road
Twinsburg, Ohio 44087-1969

Subject: Report of Findings - Additional Closure Activities
Van Waters & Rogers Inc. Facility
Bedford Heights, Cuyahoga County, Ohio
OHD 071 107 791

Dear Mr. Tukel:

Enclosed is a copy of the Report of Findings prepared by Geraghty & Miller, Inc., for sampling activities conducted on April 21, 1992 at the Van Waters & Rogers Inc. facility in Bedford Heights, Ohio. Sampling was conducted to complete proposed closure activities for the former hazardous waste container storage area at the facility.

If you have any questions, please do not hesitate to contact me at (408) 435-8700, or leave me a voice mail message at (800) 284-6264, extension 9971.

Very truly yours,

VAN WATERS & ROGERS INC.

Bessie Lee

Bessie Lee
Senior Project Manager
Environmental Affairs

BL/bel

Enclosures

cc: Steve Bouchard, U.S. EPA, Region V
Robert Hickman, VW&R, NRO
Russell Karney, VW&R, Cleveland

GERAGHTY & MILLER, INC.
Environmental Services

Ground Water *Hydrocarbon* *Remediation* *Education*

June 12, 1992

Ms. Bessie Lee
Van Waters & Rogers, Inc.
2256 Junction Avenue
San Jose, California 95131-1216

Re: Report of Findings, Concrete Pad/Soil Sampling Investigation for the Hazardous Waste Pad Closure Activities, Van Waters & Rogers Inc., Bedford Heights, Ohio

Dear Ms. Lee:

Geraghty & Miller, Inc. (G&M) is pleased to submit to Van Waters & Rogers Inc. (VW&R) the results from the recent closure investigation conducted at its Bedford Heights facility. This letter report summarizes the results of the sampling performed as a result of the Ohio Environmental Protection Agency's (Ohio EPA) additional closure requirements. The purpose of this investigation was to determine whether hazardous waste constituents might have migrated into the soils beneath the former container storage area via the slab joint or cracks.

Two concrete cores and two soil borings were drilled and sampled from beneath the concrete pad of the former hazardous waste storage area on April 21, 1992. A total of four (4) samples were collected during the investigation. Each of the samples were analyzed for volatile organic compounds (VOCs), semi-volatiles and alcohols. Soil and concrete samples were analyzed for these constituents based on the comments received from the Ohio EPA in its March 9, 1992 letter to VW&R.

PROJECT BACKGROUND

The VW&R Bedford Heights facility is a registered generator and transporter of hazardous waste and held an Ohio Part B permit for the operation of a small hazardous waste storage container unit. The size of the hazardous waste storage container unit is approximately 35 feet by 11 feet and is located north and directly adjacent to the facility loading dock (Figure 1). On April 12, 1988, VW&R submitted a Closure Plan for the unit to the Ohio EPA. On October 18, 1988, VW&R requested from Ohio EPA that the earlier closure plan be disregarded in order that VW&R could begin a Part B closure of the drum storage area in accordance with the approved Part B closure plan; Ohio EPA accepted the October 18, 1988 letter as notification of closure. On October 31, 1989 VW&R submitted to Ohio EPA a certification for final closure of the hazardous waste storage area. On November 19, 1991 representatives of Ohio EPA conducted a post-closure inspection of the unit and determined that further sampling of the

storage pad was required to determine final closure. After review of the October 1989 final closure certification report, the Ohio EPA requested on January 13, 1992 that additional sampling be performed. On February 14, 1992, VW&R submitted a sampling plan to the Ohio EPA to address the additional closure requirements. On March 9, 1992 the Ohio EPA approved the VW&R sampling plan with some minor modifications.

METHODOLOGY

As part of the sampling requirements for the hazardous waste storage container pad, two concrete core samples (C-1 and C-2) were collected by G&M personnel on April 21, 1992. The two samples were collected toward the ends of the long axis of the 11 by 35 feet pad, at locations where cracks and the slab joint intersected (Figure 2); one core sample, C-2, was collected in the general location where a sample had previously been collected as part of the 1989 closure activities. Each of the samples was drilled through the concrete using an portable, electric-powered coring device. The use of an electric-powered sampler insured that no potential cross-contamination by gasoline components could affect sample results. A gasoline powered generator was used to provide electrical power and was located on the trucking dock, downwind of the coring locations.

Two subsurface soil samples were collected from directly beneath the concrete core samples via a soil coring auger (samples SB-1 and SB-2). A sample from approximately 0 to 12 inches below the base of the concrete was collected at each location. Soil samples were collected using a 3-inch diameter, stainless steel, closed blade soil auger. In order to ensure that a representative sample was collected from each location, the sample was collected from the inner portion of the corer and care was taken not to collect any soil from the outside wall of the corer as it might have come in contact with the overlying concrete.

Each of the soil samples was classified by the G&M field representative for textural composition using the Unified Soil Classification System (USCS). Excess soil from the sampler was placed into a separate glass jar, covered with aluminum foil, and tightly sealed for headspace testing. Due to the weather conditions at the time of sampling (i.e., cool and rainy), headspace in the sample jars was measured at the G&M office approximately two hours after sample collection. Head space was tested with a Thermo Environmental Instruments Inc. Model 580B organic vapor analyzer (OVA); the OVA was calibrated to isobutylene. All headspace measurements for both concrete and soil samples were zero (0) parts per million.

In order to ensure that representative core samples (both concrete and soil) were collected and there was no potential cross contamination, the sampling equipment was cleaned at the site using an Alconox solution bath, distilled water rinse and allowed to air dry. The core samplers were cleaned prior to coring, and after each corehole location. Upon retrieval of the core samples, each sample was immediately placed into pre-cleaned, laboratory furnished bottles to insure that as little volatilization occurred as possible. Samples were submitted for laboratory analysis of the various organic compounds of interest by SW 846 methods 8015, 8240 and 8270. Specific constituents analyzed are included in Table 1. A trip and field blank were also collected

and analyzed for the parameters of interest. Concrete and soil samples were placed in an iced cooler and preserved at 4 degrees Celsius before being delivered to the analytical laboratory the same day under proper chain-of-custody procedures. All analytical work was performed by Aqua Tech Environmental Consultants, Inc.

Following completion of the borings, the boreholes were sealed to the surface using cement.

PHYSICAL DESCRIPTION (SOILS/CONCRETE)

The physical condition of the concrete at the hazardous waste storage pad was found to vary between the two sampling locations. Sample C-1, located at the intersection of a slab joint and a stress crack, was observed to be slightly weathered and crumbling. The second sample, C-2, was found to be more competent than the first sample. Subsurface materials encountered beneath the concrete pad consist primarily of brown silt with trace amounts of clay and very fine sand.

FINDINGS

A total of four samples were submitted for analysis of VOCs, semi-volatiles and alcohols. Analytical results are presented in Table 2; laboratory summary results are also attached. Three volatile organic compounds were detected in several of the soil and concrete samples: total xylenes, tetrachloroethene and 1,1,1-trichloroethane. A total xylenes concentration of 0.015 milligrams per kilograms (mg/Kg) was present in concrete sample C-1. A tetrachloroethene concentration of 0.018 mg/Kg was detected in the soil sample from location SB-2; 1,1,1-trichloroethane was also detected in this sample at a concentration of 0.018 mg/Kg. Concentrations in the trip and field blank were each below laboratory detection limits.

If you have any questions regarding this information, please do not hesitate to give me a call.

Respectfully Submitted,

GERAGHTY & MILLER, INC.

Kenneth H. Stroebel

Kenneth H. Stroebel, CPG
Senior Scientist I

TABLE 1
SAMPLE PARAMETER SUMMARY
HAZARDOUS WASTE STORAGE CONTAINER PAD
VAN WATERS & ROGERS INC.
BEDFORD HEIGHTS, OHIO

Compound	Method
Acetone	8240
Benzene	8240
n-Butyl Alcohol	8240
Carbon Disulfide	8240
Chlorobenzene	8240
Cyclohexanone	8240
Ethyl acetate	8240
Ethyl benzene	8240
Ethyl ether	8240
Isobutanol	8240
Methanol	8015
Methylene chloride	8240
Methyl ethyl ketone	8240
Methyl isobutyl ketone	8240
Nitrobenzene	8270
Tetrachloroethene	8240
1,1-Dichloroethene	8240
1,1,1-Trichloroethane	8240
1,1,2-Trichloroethane	8240
Toluene	8240
Total Xylenes	8240

TABLE 2
SUMMARY OF ANALYTICAL RESULTS
HAZARDOUS WASTE STORAGE CONTAINER PAD
VAN WATERS & ROGERS INC.
BEDFORD HEIGHTS, OHIO

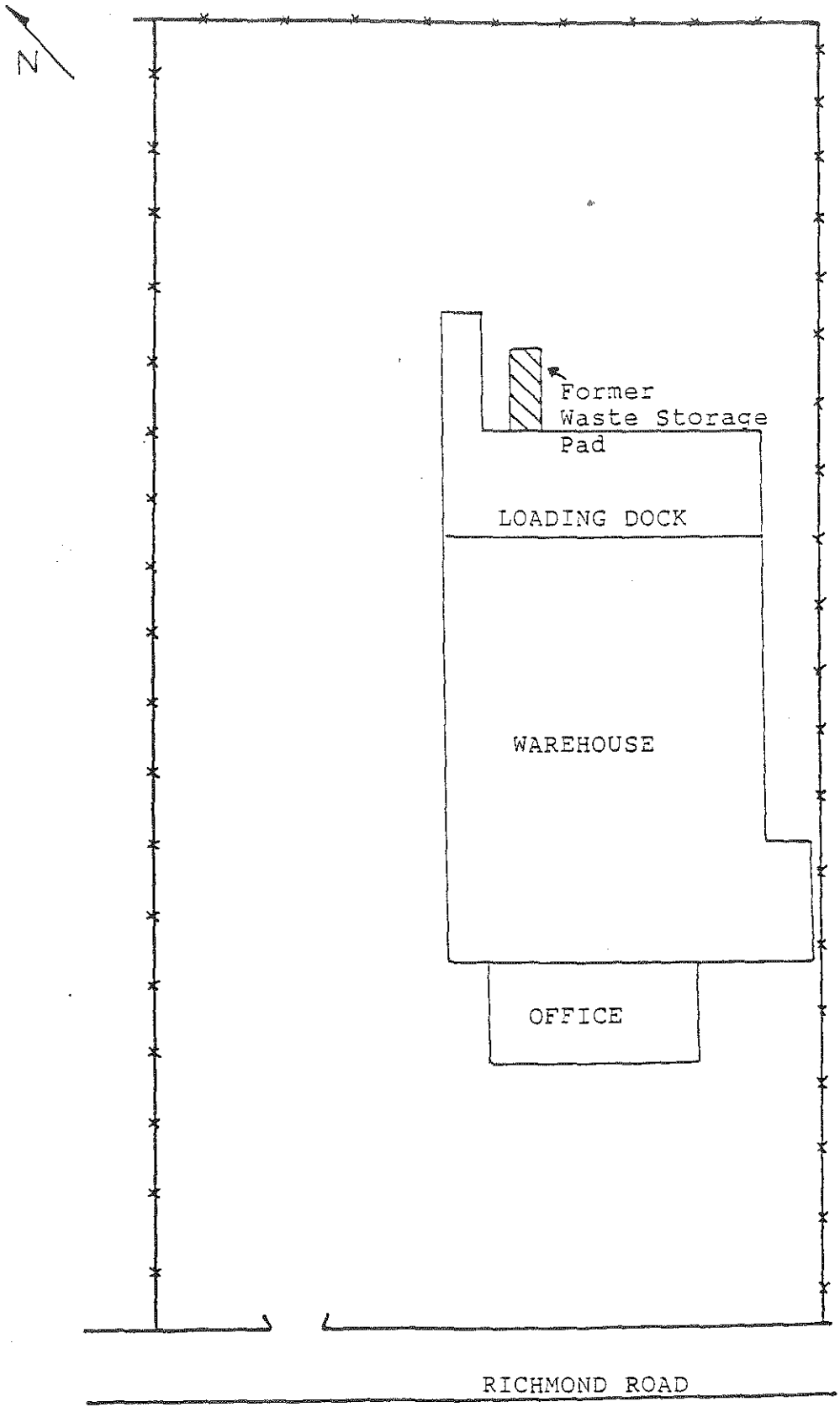
Sample ID	C-1	SB-1	C-2	SB-2	Field Blank	Trip Blank
Date Collected	04/21/92	04/21/92	04/21/92	04/21/92	04/21/92	04/21/92
Date Analyzed	05/05/92	05/05/92	05/05/92	05/05/92	05/05/92	05/05/92
Media	Concrete	Soil	Concrete	Soil	Water	Water
Units	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(ug/L)	(ug/L)
1,1,1-Trichloroethane	<0.005	<0.005	<0.005	0.018	< 5.0	< 5.0
Acetone	<0.100	<0.100	<0.100	<0.100	< 100	< 100
Benzene	<0.005	<0.005	<0.005	<0.005	< 5.0	< 5.0
n-Butyl Alcohol	<0.100	<0.100	<0.100	<0.100	< 100	< 100
Carbon Disulfide	<0.005	<0.005	<0.005	<0.005	< 5.0	< 5.0
Chlorobenzene	<0.005	<0.005	<0.005	<0.005	< 5.0	< 5.0
Cyclohexanone	<0.100	<0.100	<0.100	<0.100	< 100	< 100
Ethyl Acetate	<0.100	<0.100	<0.100	<0.100	< 100	< 100
Ethyl Benzene	<0.005	<0.005	<0.005	<0.005	< 5.0	< 5.0
Ethyl Ether	<0.010	<0.010	<0.010	<0.010	< 10.0	< 10.0
Isobutanol	<0.100	<0.100	<0.100	<0.100	< 100	< 100
Methanol	<0.100	<0.100	<0.100	<0.100	< 1.0	NA
Methylene Chloride	<0.005	<0.005	<0.005	<0.005	< 5.0	< 5.0
Methyl Ethyl Ketone	<0.100	<0.100	<0.100	<0.100	< 100	< 100
Methyl Isobutyl Ketone	<0.050	<0.050	<0.050	<0.050	< 50.0	< 50.0
Nitrobenzene	<0.500	<0.500	<0.500	<0.500	NA	NA
Tetrachloroethene	<0.005	<0.005	<0.005	0.018	< 5.0	< 5.0
1,1-Dichloroethene	<0.005	<0.005	<0.005	<0.005	< 5.0	< 5.0
1,1,2-Trichloroethane	<0.005	<0.005	<0.005	<0.005	< 5.0	< 5.0
Toluene	<0.005	<0.005	<0.005	<0.005	< 5.0	< 5.0
Total Xylenes	0.015	<0.010	<0.010	<0.010	< 10.0	< 10.0

Notes:

mg/Kg = milligrams per kilogram
ug/L = micrograms per liter

1) Samples analyzed by Aqua Tech Environmental Consultants, Inc. using the SW-846 methods listed in Table 1.

2) NA denotes not analyzed.

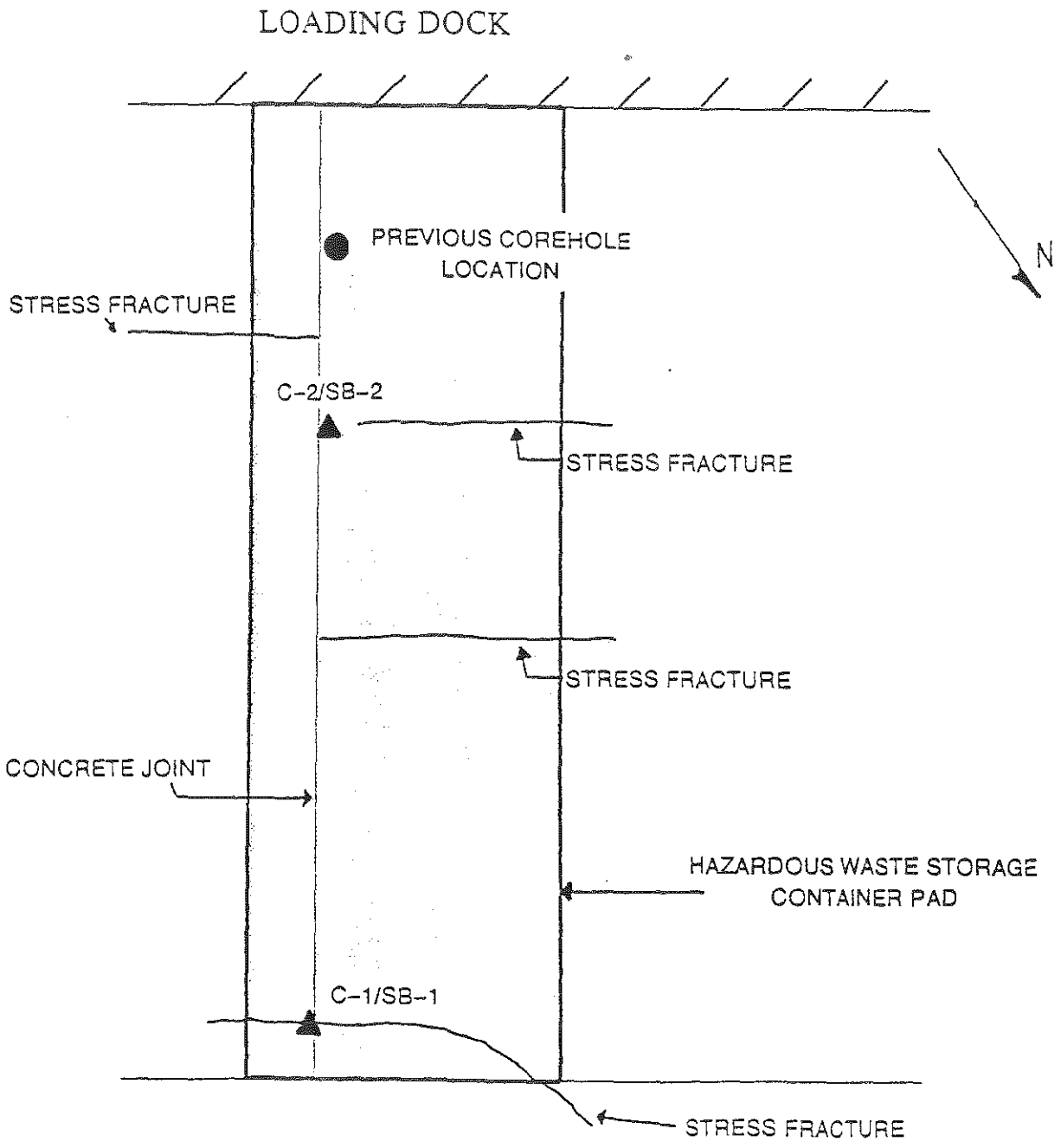


DWG DATE: 13NOV91 | PROJ NO.: CL00225 | FILE NO.: HOH-CAD | DRAWING: SITEMAP | CHECKED: FB | APPROVED: FB | DRAFTER: MAJ

GERAGHTY & MILLER, INC.
Environmental Services

SITE LOCATION MAP
VAN WATERS & ROGERS INC.
BEDFORD HEIGHTS, OH

FIGURE
1



GERAGHTY & MILLER, INC.
Environmental Services

SCALE 0 6'

SAMPLE LOCATION MAP
VAN WATERS & ROGERS INC.
BEDFORD HEIGHTS, OHIO

FIGURE
2

DRAWN BY:
APPROVED:
CHECKED:
DRAWING SUBMAP
FILE NO.: HOU-CAD
PROJECT NO.:
DWG DATE:

AQUA TECH ENVIRONMENTAL CONSULTANTS, INC.

P.O. BOX 76
MELMORE, OHIO 44845
(419) 397-2659

CLIENT: GERAGHTY & MILLER INC

ADDRESS: ATTN: JOHN ELLERMYER / KEN STROEBEL
250 BETA DRIVE SUITE G
CLEVELAND ,OH 44143

PROJECT NO.: CL032.01

DATE OF INITIAL RECEIPT AT LABORATORY: 04/24/92

PURCHASE ORDER:

COMMENTS:

SAMPLE INVENTORY

ATEC NO.	CLIENT NO.	METHOD(S)
92-06403-MEL	SB-1	SW-846; 8240/8270
92-06404-MEL	C-1	SW-846; 8240/8270
92-06405-MEL	C-2	SW-846; 8240/8270
92-06406-MEL	SB-2	SW-846; 8240/8270
92-06407-MEL	TB	SW-846; 8240
92-06408-MEL	FB	SW-846; 8240

Revised report to include 1,1, 1 - TCA

AUTHORIZED SIGNATURE: Robert S Gloucby/ks

TITLE: MELMORE LABORATORY MANAGER
DATE RELEASED: MAY 12 1992

Aqua Tech Environmental Consultants, Inc.

Melmore Laboratory
P.O. Box 76
Melmore, Ohio 44845

Telephone: (419) 397-2659

Client: GERAGHTY & MILLER INC
ATEC Sample No.: 92-06403-MEL
Client Description: SB-1
Date Received: 04/24/92
Date Extracted: 05/05/92
Date Analyzed: 05/05/92

Method: SW-846; 8270
Sample Type: SOIL
Percent Solids: 84.0
Analyst: KJP
Project No.:

Compound	Concentration - mg/kg (ppm) dry wt
1,1,1-Trichloroethane	< 0.005
Acetone	< 0.100
Benzene	< 0.005
n-Butyl Alcohol	< 0.100
Carbon Disulfide	< 0.005
Chlorobenzene	< 0.005
4-Methyl-2-Pentanone	< 0.050
Cyclohexanone	< 0.100
Ethyl Acetate	< 0.100
Ethyl Benzene	< 0.005
Diethyl Ether	< 0.010
Isobutanol	< 0.100
Methanol	< 0.100
Methylene Chloride	< 0.005
Methyl Ethyl Ketone	< 0.100
Nitrobenzene	< 0.500
Tetrachloroethene	< 0.005
1,1-Dichloroethene	< 0.005
1,1,2-Trichloroethane	< 0.005
Toluene	< 0.005
Total Xylenes	< 0.010

Aqua Tech Environmental Consultants, Inc.

Melmore Laboratory
P.O. Box 76
Melmore, Ohio 44845

Telephone: (419) 397-2659

Client: GERAGHTY & MILLER INC
ATEC Sample No.: 92-06404-MEL
Client Description: C-1
Date Received: 04/24/92
Date Extracted: 05/05/92
Date Analyzed: 05/05/92

Method: SW-846; 8270
Sample Type: SOIL
Percent Solids: 87.8
Analyst: KJP
Project No.:

Compound	Concentration - mg/kg (ppm) dry wt
1,1,1-Trichloroethane	< 0.005
Acetone	< 0.100
Benzene	< 0.005
n-Butyl Alcohol	< 0.100
Carbon Disulfide	< 0.005
Chlorobenzene	< 0.005
4-Methyl-2-Pentanone	< 0.050
Cyclohexanone	< 0.100
Ethyl Acetate	< 0.100
Ethyl Benzene	< 0.005
Diethyl Ether	< 0.010
Isobutanol	< 0.100
Methanol	< 0.100
Methylene Chloride	< 0.005
Methyl Ethyl Ketone	< 0.100
Nitrobenzene	< 0.500
Tetrachloroethene	< 0.005
1,1-Dichloroethene	< 0.005
1,1,2-Trichloroethane	< 0.005
Toluene	< 0.005
Total Xylenes	0.015

Aqua Tech Environmental Consultants, Inc.

Melmore Laboratory
P.O. Box 76
Melmore, Ohio 44845

Telephone: (419) 397-2659

Client: GERAGHTY & MILLER INC
ATEC Sample No.: 92-06405-MEL
Client Description: C-2
Date Received: 04/24/92
Date Extracted: 05/05/92
Date Analyzed: 05/05/92

Method: SW-846; 8270
Sample Type: SOIL
Percent Solids: 96.4
Analyst: KJP
Project No.:

Compound	Concentration - mg/kg (ppm) dry wt
1,1,1-Trichloroethane	< 0.005
Acetone	< 0.100
Benzene	< 0.005
n-Butyl Alcohol	< 0.100
Carbon Disulfide	< 0.005
Chlorobenzene	< 0.005
4-Methyl-2-Pentanone	< 0.050
Cyclohexanone	< 0.100
Ethyl Acetate	< 0.100
Ethyl Benzene	< 0.005
Diethyl Ether	< 0.010
Isobutanol	< 0.100
Methanol	< 0.100
Methylene Chloride	< 0.005
Methyl Ethyl Ketone	< 0.100
Nitrobenzene	< 0.500
Tetrachloroethene	< 0.005
1,1-Dichloroethene	< 0.005
1,1,2-Trichloroethane	< 0.005
Toluene	< 0.005
Total Xylenes	< 0.010

Aqua Tech Environmental Consultants, Inc.

Melmore Laboratory
P.O. Box 76
Melmore, Ohio 44845

Telephone: (419) 397-2659

Client: GERAGHTY & MILLER INC
ATEC Sample No.: 92-06406-MEL
Client Description: SB-2
Date Received: 04/24/92
Date Extracted: 05/05/92
Date Analyzed: 05/05/92

Method: SW-846; 8270
Sample Type: SOIL
Percent Solids: 81.5
Analyst: KJP
Project No.:

Compound	Concentration - mg/kg (ppm) dry wt
1,1,1-Trichloroethane	0.018
Acetone	< 0.100
Benzene	< 0.005
n-Butyl Alcohol	< 0.100
Carbon Disulfide	< 0.005
Chlorobenzene	< 0.005
4-Methyl-2-Pentanone	< 0.050
Cyclohexanone	< 0.100
Ethyl Acetate	< 0.100
Ethyl Benzene	< 0.005
Diethyl Ether	< 0.010
Isobutanol	< 0.100
Methanol	< 0.100
Methylene Chloride	< 0.005
Methyl Ethyl Ketone	< 0.100
Nitrobenzene	< 0.500
Tetrachloroethene	0.018
1,1-Dichloroethene	< 0.005
1,1,2-Trichloroethane	< 0.005
Toluene	< 0.005
Total Xylenes	< 0.010

Aqua Tech Environmental Consultants, Inc.
Melmore Laboratory
P.O. Box 76
Melmore, Ohio 44845

Telephone: (419) 397-2659

Client: GERAGHTY & MILLER INC
ATEC Sample No.: 92-06407-MEL
Description: TB
Date Received: 04/24/92
Date Extracted:
Date Analyzed: 04/29/92

Method: SW-846; 8240
Sample Type: WATER
Percent Solids:
Analyst: JSM
Project No.:

Compound	Concentration - ug/l (ppb)
1,1,1-Trichloroethane	< 5.0
Acetone	< 100
Benzene	< 5.0
n-Butyl Alcohol	< 100
Carbon Disulfide	< 5.0
Chlorobenzene	< 5.0
4-Methyl-2-Pentanone	< 50.0
Cyclohexanone	< 100
Ethyl Acetate	< 100
Ethyl Benzene	< 5.0
Diethyl Ether	< 10.0
Isobutanol	< 100
Methanol	< 1.0
Methylene Chloride	< 5.0
Methyl Ethyl Ketone	< 100
Tetrachloroethene	< 5.0
1,1-Dichloroethene	< 5.0
1,1,2-Trichloroethane	< 5.0
Toluene	< 5.0
Total Xylenes	< 10.0

Aqua Tech Environmental Consultants, Inc.
Melmore Laboratory
P.O. Box 76
Melmore, Ohio 44845

Telephone: (419) 397-2659

Client: GERAGHTY & MILLER INC
ATEC Sample No.: 92-06408-MEL
Description: FB
Date Received: 04/24/92
Date Extracted:
Date Analyzed: 04/29/92

Method: SW-846; 8240
Sample Type: WATER
Percent Solids:
Analyst: JSM
Project No.:

Compound	Concentration - ug/l (ppb)
1,1,1-Trichloroethane	< 5.0
Acetone	< 100
Benzene	< 5.0
n-Butyl Alcohol	< 100
Carbon Disulfide	< 5.0
Chlorobenzene	< 5.0
Cyclohexanone	< 100
Ethyl Acetate	< 100
Ethyl Benzene	< 5.0
Diethyl Ether	< 10.0
Isobutanol	< 100
Methylene Chloride	< 5.0
Methyl Ethyl Ketone	< 100
Tetrachloroethene	< 5.0
4-Methyl-2-Pentanone	< 50.0
1,1-Dichloroethene	< 5.0
1,1,2-Trichloroethane	< 5.0
Toluene	< 5.0
Total Xylenes	< 10.0

out 5-5-92

Aqua Tech Environmental Consultants, Inc.

CANTON LABORATORY
5300 FULTON DRIVE N.W.
CANTON, OHIO 44718
216-494-3324
FAX 216-494-2961

Chain of Custody Record

Client Name: Van Waters & Rogers, Bedford Hts., OH
Client Number: CL032.01

Samplers: (print) JOHN ELLERMEYER, KEN STROEBEL
(signature) Kenneth H. Stroebel

Station Number	Station Location	Date	Time	SAMPLE TYPE: Water Comp.	Water Grab	Soil/Concrete Comp.	Soil/Concrete Grab	Number of Containers	Analysis Required
SB-1	Soil 0-9"	4/21/92	10:59	X		✓		1	8240/8270/8015 20403
C-1	Concrete 0-8"	4/21/92	10:25	X		✓		1	8240/8270/8015 04
C-2	Concrete 0-8"	4/21/92	11:35			✓		1	8240/8270/8015 05
SB-2	Soil	4/21/92	11:50			✓		1	8240/8270/8015 06
TB	Trip Blank	4/21/92	12:00		✓			2	8240 07
FB	Field Blank	4/21/92	12:00		✓			2	8240 08
									See attached list from Bob Peters re: 8015
									8270

Relinquished by: (print) John Ellermeyer (signature) John Ellermeyer	Received by: (print) Judy Davis (signature)	DATE / TIME 4/21/92 1330
Relinquished by: (print) (signature)	Received by: (print) Gordon G. Geis (signature) Gordon G. Geis	DATE / TIME 4/21/92 1600
Relinquished by: (print) (signature) Gordon G. Geis	Received by: (print) (signature)	DATE / TIME
Relinquished by: (print) (signature)	Received by Mobile Laboratory for Field Analysis: (print) (signature)	DATE / TIME

Dispatched by:	DATE / TIME	Received for Laboratory by: (print) (signature) Cindi Cunard	DATE / TIME 4-21-92 8:00

Method of shipment:

Distribution:
White - Laboratory (include with reports)
Yellow - Laboratory (file copy)
Pink - Sample custodian
Gold - Field sampling records

Van Waters & Rogers Inc.
subsidiary of **Univar**

2256 JUNCTION AVENUE
SAN JOSE, CA 95131
PHONE (408) 435-8700

April 1, 1992

Mr. Murat Tukel
Ohio Environmental Protection Agency
Northeast District Office
Division of Hazardous Waste Management
2110 East Aurora Road
Twinsburg, Ohio 44087-1969

Subject: Additional Closure Activities
Van Waters & Rogers Inc. Facility
Bedford Heights, Cuyahoga County, Ohio
OHD 071 107 791

Dear Mr. Tukel:

As discussed in an April 1, 1992 telephone conversation between Ms. Bessie Lee of Van Waters & Rogers Inc. (VW&R) and Mr. Murat Tukel of the Ohio Environmental Protection Agency (Ohio EPA), the purpose of this letter is to formally inform the Ohio EPA that additional field activities needed to complete the closure of the former hazardous waste container storage area at the subject facility is proposed to commence at 9:00 a.m. on Tuesday, April 21, 1992. The activities to be performed were proposed in a February 14, 1992 letter from VW&R to the Ohio EPA and modified by the Ohio EPA in its March 9, 1992 letter to VW&R.

If you have any questions, please do not hesitate to contact me at (408) 435-8700, or leave me a voice mail message at (800) 284-6264, extension 9971.

Very truly yours,

VAN WATERS & ROGERS INC.

Bessie Lee
Senior Project Manager
Environmental Affairs

BL/bel

cc: Steve Bouchard, U.S. EPA, Region V
Robert Hickman, VW&R, NRO
Russell Karney, VW&R, Cleveland

SCHEDULE

The proposed sampling and analysis program can commence within four weeks of receipt of either written or verbal approval of this letter by the Ohio EPA; whichever is sooner. If verbal approval is given first, however, VW&R requests that it be followed up by the Ohio EPA with a written document. The four-week lead time is necessary due to the fact that the contractors require at least two weeks notice for scheduling purposes.

The sampling and analysis program can be completed within 90 days of approval of this proposal. The turnaround time for the laboratory analysis will be approximately three to four weeks, depending on the laboratory and its work load. The report will be submitted within four weeks of receipt of the analytical results from the laboratory.

If you have any questions or require additional information, please do not hesitate to contact me at (708) 573-4340, or leave a voice mail message at (800) 284-6264, extension 9218.

Very truly yours,

VAN WATERS & ROGERS INC.

James P. Hooper

James P. Hooper
Regional Regulatory Manager
Northern Region

JPH:be

CC: Steve Bouchard
U. S. EPA, Region V
Ohio RCRA Permitting Section - HRP-7J
77 West Jackson Blvd
Chicago, IL 60604-3590

Robert D. Hickman, VW&R, Northern Region Office
Russell Karney, VW&R, Cleveland Area Office

OhioEPA
State of Ohio Environmental Protection Agency
Northeast District Office
2110 E. Aurora Road
Twinsburg, Ohio 44087-1969
(216) 425-9171
FAX (216) 487-0769

George V. Voinovich
Governor
Donald R. Schregardus
Director

January 13, 1991

RE: VAN WATERS & ROGERS INC.
CUYAHOGA COUNTY
OHD 071 107 791
CLOSURE

CERTIFIED MAIL

Mr. James P. Hooper
Van Waters & Rogers Inc.
600 Hunter Drive
Oak Brook, IL 60521

Dear Mr. Hooper:

On November 19, 1991, Mr. Mark Bergman and I, representing the Ohio EPA, conducted a post closure inspection at your facility located at 26601 Richmond Road, Bedford Heights, Ohio 44146. Mr. Russell Karney represented the facility during the inspection.

Van Waters & Rogers Inc. (formerly McKesson Chemical Company) submitted a closure plan to Ohio EPA for their hazardous waste container storage area on April 12, 1988. At that time, the facility had an approved Ohio Part B Permit (granted on July 18, 1985) to store hazardous waste at their drum storage area. This permit also included a closure plan. On October 18, 1988, Ohio EPA received a letter from Van Waters & Rogers, Inc. requesting that the April 12, 1988 closure plan be disregarded. The company wished to begin the Part B closure of the hazardous waste drum storage area according to the approved Part B closure plan. On January 6, 1989, Ohio EPA accepted your October 18, 1988 letter as notification of closure. On October 31, 1989, Van Waters & Rogers submitted a certification for final closure of the hazardous waste storage area to Ohio EPA, stating that the closure of the unit is completed and meets the closure performance standard set forth in OAC rule 3745-55-11. In September of 1989, Van Waters & Rogers moved their operation to Twinsburg, Ohio and the Bedford Heights facility remained vacant since.

This office completed the review of the final closure certification and the facility was evaluated in accordance with the closure performance standards set forth in OAC rule 3745-55-11. It appears that Van Waters & Rogers failed to provide documentation necessary to demonstrate that the facility was closed in a manner that prevents threats to human health and the environment. It is Ohio EPA's concern that the hazardous waste constituents might migrated into the soil underneath the concrete pad through the cracks and the slab joint. Van Waters & Rogers didn't test the core samples

for the organic constituents. Also Van Waters & Rogers failed to dike the hazardous waste storage area as required in the Part B permit. Therefore, this office requests additional sampling to assure that no contamination has migrated to the soil underneath the concrete pad. At least two additional core samples are necessary to help demonstrate that hazardous waste constituents did not contaminate the soil. These sampling locations should be chosen at the intersection points of the cracks and the slab joint. The soil samples shall be tested for all appropriate organic constituents which were also analyzed in the rinseate samples during the decontamination activities.

Failure to list specific deficiencies in this communication does not relieve your facility from complying with all applicable hazardous waste regulations. Please be aware that these violations may become a part of pending or future enforcement actions.

Please reply to this letter by February 18, 1992. If you have any questions concerning this letter, please feel free to contact me at (216) 425-9171.

Sincerely,

Murat Tukel

Murat Tukel
Environmental Engineer
Division of Hazardous Waste
Management

MT/fn

cc: Laurie Stevenson, DHWM, CO
Harry Courtright, DHWM, NEDO
Steve Bouchard, U.S. EPA, Region V

Van Waters & Rogers Inc.
subsidiary of **Univar**

600 HUNTER DRIVE
OAK BROOK, IL 60521
PHONE (708) 573-4300

CERTIFIED MAIL #P-086-769-496
RETURN RECEIPT REQUESTED

January 18, 1990

Ms. Lisa A. Pierard
Chief, RCRA Permit Program - Ohio Unit
U. S. Environmental Protection Agency
230 South Dearborn Street
Chicago, IL 60604

RE: Van Waters & Rogers Inc.
Bedford Heights, Ohio
OHD 071 107 791
RCRA Closure Status

Dear Ms. Pierard:

In a telephone conversation on January 12, 1990 with Mr. Steven Bouchard of your staff, I was asked to write and explain the RCRA status of our Bedford Heights, Ohio facility since we have submitted a RCRA closure certification for the RCRA Part B permitted hazardous waste container storage unit there. The purpose of this letter is to clarify the RCRA status of the aforementioned facility.

The Bedford Heights facility is registered as a generator and transporter of hazardous waste. The facility also has a RCRA Part B permit for a hazardous waste container storage unit. The facility has been permanently closed, and the property will be sold for redevelopment when the necessary approvals have been obtained from the regulatory authorities. We currently do not conduct any hazardous waste operations, or any operations at all for that matter, at the facility. Therefore, the Bedford Heights, Ohio facility will no longer be a hazardous waste generator, transporter, or storage facility once our certification of RCRA closure has been accepted and approved.

Please feel free to call me if you have any questions about the closure of our Bedford Heights, Ohio facility.

Very truly yours,

James P. Hooper
Regional Regulatory Manager
Central Region

COPIES TO: R. D. Hickman
Russ Karney
File

JPH:be

OhioEPA
State of Ohio Environmental Protection Agency
O. Box 1049, 1800 WaterMark Dr.
Columbus, Ohio 43266-0149

Richard F. Celeste
Governor

October 11, 1988

OHD 071107791
Ohio # 02-18-0628

Mr. Robert D. Hickman
Van Waters & Rogers, Inc.
600 Hunter Drive
Oak Brook, Il 60521

Dear Mr. Hickman:

On April 12, 1988, Van Waters & Rogers, Inc. submitted to Ohio EPA a closure plan for a hazardous waste drum storage area located at 26601 Richmond Road, Bedford Heights, Ohio. During our review of the closure plan, it was noted that your facility has an Ohio Part B permit (granted on July 18, 1985) to store hazardous waste at the drum storage area. Therefore, Van Waters & Rogers falls under the regulations dealing with closure under a hazardous waste management permit (Ohio Administrative Code 3745-55-12).

The Ohio Administrative Code (OAC) 3745-55-12 (A) (1) states that the closure plan for the hazardous waste management facility must be submitted and approved as part of the permit application. A closure plan is included as part of the approved Ohio Part B permit for Van Waters & Rogers. The current closure plan submitted to Ohio EPA seems to fall under the title of an amended closure plan to the approved plan in the part B permit. If this is true, the company must submit a written request for a permit change to amend the approved closure plan which is part of the permit (OAC 3745-55-12 (C). No such request was included in the amendment to the closure plan received by Ohio EPA on April 12, 1988. In order to facilitate closure of the drum storage area using the amended closure plan, Van Waters & Rogers needs to submit a permit change request to the Director of the Ohio EPA (according to OAC 3745-55-12) stating that the company wishes to amend the closure plan in the approved Ohio Part B permit using the April 12, 1988 closure plan amendment. Ohio EPA would then complete its review and take formal legal action on both the pemit change request and the closure plan.

ANITA

Van Waters & Rogers Inc.
subsidiary of **Univar**

600 HUNTER DRIVE
OAK BROOK, IL 60521
PHONE (312) 573-4300

CERTIFIED MAIL #P952-620-466
RETURN RECEIPT REQUESTED

October 18, 1988

Mr. Edward A. Kitchen, Manager
Technical Assistance and Engineering Section
Division of Solid and Hazardous Waste Mgmt
Ohio EPA
P.O. Box 1049
Columbus, OH 43266-0149

RE: Van Waters & Rogers Inc.
Bedford Heights, Ohio
U. S. EPA I.D. #OHD 071 107 791
Ohio Permit #92-18-0628
Closure Plan

Dear Mr. Kitchen:

Thank you for your October 11, 1988 letter concerning the closure plans at our Bedford Heights facility. It is not our intent to amend the closure plan in our approved Ohio Part B permit. Instead, we mean to begin closure of the hazardous waste drum storage area in accordance with the closure plan in the approved permit. Please disregard the version of the closure plan sent to Ohio EPA on April 12, 1988.

If possible, we would like to begin closure as soon as possible. Our submittal of the closure plan in April of this year was intended to be our notification, in accordance with OAC 3745-55-12, that we planned to begin closure of the facility in about 180 days. Apparently our intentions were not clearly communicated. Would you please review our request to begin closure activities and advise us of our current status regarding the 180 day notification period (do we need to restart the clock?)

If there are any questions about our closure plans, please feel free to call me.

Very truly yours,

James Hooper

James P. Hooper
Regional Regulatory Manager
Central Region

JPH:be

COPIES TO: R. D. Hickman
R. Karney, Cleveland Area Office
Thomas Crepeau, Ohio EPA
Paul Vandermeer, Ohio EPA
Rebecca Strom, U. S. EPA-Region 5
File

If you have any questions regarding this matter, feel free to contact either myself or Paul Vandermeer of my staff at the following phone number: (614) 644-2956. Thank you for your attention to this matter.

Sincerely,

Edward A. Kitchen

Edward A. Kitchen, Manager
Technical Assistance & Engineering Section
Division of Solid and Hazardous Waste Management

EAK/pas

cc: Paul Vandermeer, DSHWM
Anthony Sasson, DSHWM
Randy Meyer, DSHWM
Sheryl Slone, NEDO
Dave Wertz, NEDO
Rebecca Strom, US EPA-Region V
Thomas Crepeau, DSHWM

1711U/

McKesson Chemical Company
Foremost-McKesson
Chemical Group
Eastern Region
136 Summit Avenue
Montvale, NJ 07645
201 573 9480

McKESSON CHEMICAL

May 11, 1981

U.S. EPA Region V
230 South Dearborn Street
Chicago, Illinois 60604

Gentlemen:

RE: Closure Plan - Storage Facility
EPA ID Number - OHD071107791

The McKesson Chemical Company Branch located at Cleveland, Ohio, is registered as a storage facility. In fact, it is only a point at which the Company accumulates materials received from customers, which might otherwise be deemed hazardous waste, which are destined for transportation to a recycling facility.

This facility will continue to operate for as long as it is deemed economically viable by the Company and so long as its operation is otherwise permitted by applicable law.

All storage of regulated materials will be in approved, portable containers of a capacity of 55 gallons or less. When and if closure occurs, it will be accomplished by transporting all such stored material on hand to an approved recycling or other treatment or disposal facility.

It is presently contemplated that the maximum amount of such material on hand would be 40-80 drums.

It should be possible to complete closure within a maximum period of one week and based on current transportation costs for the estimated maximum amount of material that might be on hand at any one time, the total cost of closure should not exceed $300.00.

RE: Closure Plan - Storage Facility
EPA ID Number - OHD071107791

Since no processing or transfer of this material is contemplated, other than the clean-up of any spill or leak that might conceivably occur (and for which there are contingency plans), no costs for decontamination, monitoring or other such closure procedures should be incurred.

In view of the foregoing, no post closure care would be required for this facility and no post closure plan will be prepared.

The responsible person at this branch is R. A. Girman, Branch Manager.

Sincerely,

McKESSON CHEMICAL COMPANY

D. M. Black
Regional Operations/Safety Manager

DMB:jh

cc: R. A. Girman

MAY 19 1981

CLOSURE PLAN

BEDFORD HEIGHTS, OHIO

OHD 071 107 791

OAC 3745-66-12(c)(d)

Address: 26601 Richmond Road
Bedford Heights, Ohio

Telephone: 216 292 7500

1. DESCRIPTION OF FACILITY
OAC 3745-66-12

Van Waters and Rogers Inc. primary business is that of nationwide distributor of organic and inorganic chemicals. It also provides various services to its'customers including the pickup and transportation of drummed waste solvents to centralized recycling/disposal facilities. This may at times require temporary storage of these drummed wastes at our facility in order to accumulate economic truckload quantities.

2. DESCRIPTION OF WASTE MANAGEMENT UNITS TO BE CLOSED
(OAC 3745-66-12)

This facility consists of 20,500 square feet. Of this, approximately 300 square feet has been used for the storage of hazardous wastes. The area designated for the storage of drummed hazardous wastes is shown on the attached diagram. The surface of this area is constructed of concrete which is generally accepted to be resistant to solvent permeation.

A copy of the topographic map for this area is attached; a diagram of the concrete area where waste is held temporarily

until transfer to the treatment facility is also enclosed.

3. MAP OF FACILITY

The location of the facility is shown on attached topographic map of the area and a diagram showing the intended storage area is also enclosed.

4. DETAILED DRAWING OF UNITS TO BE CLOSED

A site plan showing the location of the buildings on the property and the location of the Hazardous Waste Management Unit to be closed is attached.

5. LIST OF HAZARDOUS WASTE

All drums of waste are held for a short period under our 10 day transporter allowance; the manifest reflects our operation as a Transporter only. There have been occasions over the years when the 10 day transporter rule was exceeded and therefore this facility did technically store waste under the USEPA RCRA Permit is was issued on September 29, 1983 and Ohio RCRA Permit issued on July 18, 1985.

This facility has been in the hazardous waste management business since August 1981.

A list of the wastes technically stored at this facility because of exceeding the 10 day transporter rule follows:

EPA Waste No.	Description
F001	1,1,1 Trichloroethane
F002	Methylene Chloride
F005	Toluene
F001	Perchloroethylene
FOO5	Methyl Ethyl Ketone
D001	Fluorocarbon solvent TMS
F005	Glycol Ether DE
F001	N-Propyl alcohol/acetate
F005	Methanol

F001	Trichloroethylene
F003	Xylene
F003	Flammable mixture, NOS
U070	Dichlorobenzene

Again, these wastes were picked up in drums from generators and brought into this facility for accumulation of economic truck-load quantities before shipment to a licensed Treatment, Storage, and Disposal facility off site.

The maximum amount that this facility is permitted to store is 120 x 55 gallon drums (6600 gallons).

6. SCHEDULE FOR CLOSURE
OAC 3745-66-13(A)

Attached is a schedule for closure which shows all critical dates for closure including waste removal, sampling, soil removal, critical points when the independent engineer or his representative will be present, independent engineer's certification, backfilling and other activities where appropriate. This schedule starts with approval of the Closure Plan by Ohio EPA.

7. AIR EMISSIONS

We do not anticipate any problems from air emissions during any cleanup activities which may be required. The only cleanup activity anticipated is a washing down of the concrete area and pickup of the rinsate water for analysis.

8. PERSONNEL SAFETY AND FIRE PREVENTION
OAC 3745-66-11

All personnel involved in any potential cleanup activity will be protected using respiratory equipment, gloves, goggles, safety suits etc. as appropriate for the situation. Our cleanup contractor will be responsible to see that his personnel are

properly equipped to protect their safety.

9. DECONTAMINATION EFFORTS
OAC 3745-66-14

Any equipment used for a cleanup activity will be thoroughly cleaned by the contractor using water to rinse off shovels, other digging devices, and other reusable equipment prior to its storage. Water used in decontamination will be collected and treated as hazardous waste.

The actual washing of the concrete storage area will be done by steam cleaning then collecting the rinsate. Analysis will be done for each of the above listed waste streams. Washing of the area and testing will be repeated as necessary until we are assured that no more than 1mg/l of any of the above listed wastes are present in the rinsate.

We would not expect to collect more than 200 gallons of water from the cleaning operation. This water would be treated as a hazardous waste in accordance with current regulations.

10 "CLEAN" LEVELS FOR SOIL
OAC 3745-66-11

We do not expect to find contamination in the soil around the edges of the concrete storage area. However, sampling will be done as shown on the enclosed diagram. A background sample will be taken and analyzed in the area indicated on the enclosed site plan for this property. This location was selected as the one most likely to represent the natural background of the area around our facility. Analysis done on samples taken from our sampling locations will be compared to background.

11. SAMPLING PLAN AND ANALYTICAL METHODS OAC 3745-66-11

Because the concrete area shows some signs of cracking, we have decided to take samples around the perimeter of our concrete area into the soil. The location of our sampling sites is shown on the diagram attached. The plan for sampling and analysis has been prepared for us by GSX Chemical Services of Ohio. GSX's predecessor company has performed this type of work for Van Waters and Rogers Inc. in Ohio previously, and is qualified to perform these services.

The Quality assurance/quality control plan for GSX is attached as a part of this Closure Plan.

12. DESCRIPTION OF REMOVAL EFFORTS

If any soil is found to be contaminated around the concrete area, further sampling will be conducted at 10 foot intervals in a circular pattern away from the concrete pad. Each sample will be analyzed for wastes listed above. Sampling will continue until the areal and vertical extent of any contamination is found.

Removal of the contaminated soil will be conducted by Alchemtron as described on the attached proposal from them. Disposal of the contaminated soil will be to a secure landfill, probably the Adams Center Landfill, located at Fort Wayne, Indiana.

13. SPECIFICS FOR LANDFILL CLOSURES

This section does not apply to our situation.

14. DESCRIPTION OF EQUIPMENT CLEANING

Cleaning of any equipment used in a soil removal effort will be the responsibity of the contractor. Any residue from the cleanup of equipment will be treated as a hazardous waste and will be managed in accordance with applicable regulations.

15. CERTIFICATION
OAC 3745-55-15, OAC 3745-66-15

The closure of our hazardous waste management unit will be certified by Van Waters and Rogers Inc. and an independent registered professional engineer.

Certification will be submitted within 60 days of completion of closure. The independent registered professional engineer will be present at all critical major points during the closure. These will include soil sampling, soil removal, backfilling, etc. as may be required. The frequency of his visits will be sufficient to assure the adequacy of each critical activity during the closure process.

16. STATUS OF FACILITY AFTER CLOSURE

After closure is completed, no further RCRA activities will be conducted at this site. After closure is completed, we will submit a request for withdrawal of our permit under OAC 3745-50-47.

Upon approval of this Closure Plan, immediate action can be taken to implement the Plan. No hazardous wastes are at this facility nor will any be brought into this facility between now and the date of final closure approval.

If required, we will contact your agency in advance of required sampling so an inspector may be present to observe this activity.

All closure activities can be completed within 180 days after approval of the closure plan.

SAMPLING PROCEDURE

The site being closed will be sampled according to the attached diagram, with 1 sample being taken through the concrete and 4 other samples being taken around the perimeter of the rectangle.

This should allow us to determine whether solvents have gotten through the concrete pad and whether spilled solvents may have run off the pad into the soil surrounding it.

A power drill suitable for drilling through concrete will be utilized to drill a hole 6 inches deep in the center of the pad. Analysis will be performed on the top layer and the bottom layer of the core withdrawn from the hole.

The perimeter samples will be taken using a small spade or pick by hand labor, approximately 3" by 3" by 6" deep.

All samples will be placed in quart jars, labelled to correspond to the diagram locations and will be delivered to the GSX laboratory for analysis.

Sampling will be performed by GSX Chemical Services of Ohio.

Our contracted registered independent Ohio engineer, Mr. Morton Levy, will oversee the sampling procedure and will visit GSX to make sure that the proper instrumentation required to perform the texts as outlined on attachments is available.

7.0 QUALITY ASSURANCE/QUALITY CONTROL

Laboratory QC/QA

1. QC/QA will be handled by the Technical Services Group, independent of laboratory administration.

   Technical Service will:

   A) Set up samples to be run for QC. These will be submitted blind. They will be either:

      1) Split samples - used to check repeatability.

      2) Split and spiked samples - to check on % recovery. These are used to set up control charts.

      3) Standard reference materials - submitted at less frequent intervals.

      In 1 and 2 above the fact that the sample is being used for QC will not be known to the analyst. They will be submitted as customer or Alchem-Tron samples.

   B) Collect all data and perform statistical analysis as required. Reference each data point to method/instrument, Analyst(s), date submitted, date reported and sample source.

   C) Set up control charts, these would normally be based on a % recovery.

   D) Conduct reviews of the lab performance with the laboratory manager, customer service coordinator and analysts. Recommental actions, training and upgrading of personnel to meet QC/QA rules.

   E) Conduct periodic procedure audits at regular intervals to be established. It is anticipated that the trends observed in the control charts will guide the audits.

   F) Maintain procedure manual. Request EPA approval on changes and additions if required. The lab manager and customer service coordinator are expected to provide input.

   G) Sampling. The Technical Service group will work with internal sampling personnel to set-up statistically valid sampling procedures. This area includes shipments arriving at the plant and internal QC samples. Sampling assistance would also be given to sales personnel obtaining samples from generators or potential customers.

      The containers normally sampled are tank trailers, roll off boxes and drums for incoming wastes. Plant QC samples are taken from waste beds, tanks and drums. The samples taken should be representative, that is, exhibit the average properties of the whole waste and enough samples be taken to represent the variability of the waste.

The sampling strategy will normally be that of simple random sampling, adapted to tank trailers, roll off boxes, waste beds and drums. Liquids and slurries contained in tank trailers and drums will be sampled with a coliwasa, sludges and solids will be sampled with a thief, trier, or auger as required. For drum lots a minimum of 10% of the total number of drums will be sampled. For solids contained in a roll off box a grid will be provided along with a random number generator. The correct number of grid locations to sample will be estimated using the parameters given in SW-846. Cyanide containing drums conform to the general 10% minimum rule. Before processing however, all Cyanide containing drums will be checked to insure that no Acid is mixed with Alkaline Cyanide waste. All samples will be collected and preserved to retain sample integrity before analysis.

Chain of Custody-

Initial Sampling-

Person sampling - either sales, technical service or laboratory personnel will collect samples in approved, labeled sample containers. The label information should include:

1) Date and Time of Sampling
2) Generator and Address
3) Location within the generator's plant
4) Person Sampling

The sample bottle lid should be sealed with a gummed label, the seal should duplicate the information on the bottle label.

The sample must be accompanied by a chain of custody sheet, which is properly filled out and signed. Any transfer of the sample must be accompanied by the proper record on the chain of custody form.

This chain of custody form must be kept with the sample and any changes in custody must be recorded in the spaces provided. Sales will transmit sample and custody form to technical service.

Upon receipt, Technical Service will log in the sample, assign identification and prepare the necessary work orders. The sample, custody form and necessary work orders will be given to the lab supervisor.

The laboratory supervisor will store the sample in a storeroom with restricted acess. All analysts will sign the custody form when taking the sample out for analysis. The lab supervisor will acknowledge return of the sample on the custody form. The custody form will remain in the possesion of the lab supervisor. After the analytical work is complete the custody form will become a part of the analytical record.

Samples which are sent in by a generator via mail or U.P.S. will be received by a member of the sales department. This person will be responsible for initiating the custody form and recording such information as is available. The sample and form will then be given to Technical Service.

Technical Service will receive samples for evaluation and/or analysis. Technical Service personnel will:

1) Provide technical expertise to select analysis parameters necessary to obtain required information.
2) Expedite the evaluation and/or analysis.
3) Return information to sales promptly to avoid unnecessary delays.
4) Maintain files for completed analytical work by customer.

Table 5-1 Parameters and Test Methods

Parameter	Test Method	Method No.
bis (2-chloroethyl)ether	G.C.	8010, 8240
benzene a pyrene	G.C.	8100, 8250
	L.C.	8310
4-bromophenyl, phenylether	G.C.	611
1,2-dichloroethane	G.C.	8010
1,2-dichloroethylene	G.C.	8010
phenol	G.C.	8040
2,4,5-trichlorophenoxy propionic acid	G.C.	8150, 8250
bis(chloromethyl)ether	G.C.	611
dinoseb	G.C.	8150
4-6-dinitro-o-cresol and salts	G.C.	8040
2,4 dinitro-phenol	G.C.	8040
Color	Colorimetric	110.1-110.3
Odor	Threshold Odor	140.1
pH	Electrometric	9040
Residue		
Filterable	gravimetric, dried @ 180 C	160.1
Non-Filterable	gravimetric, dried @ 103 -105 C	160.2
Total	gravimetric, dried @ 103 -105 C	160.3
Volatile	gravimetric, Ignition @ 103 -105 C	160.4
Temperature	Thermometric	170.1
Aluminum	ICP	6010
Antimony	ICP	6010
Arsenic	ICP	6010
Barium	ICP	6010
Beryllium	ICP	6010
Boron	ICP	6010
Cadmium	ICP	6010
Calcium	ICP	6010
Chromium	ICP	6010
Cobalt	ICP	6010
Copper	ICP	6010
Gold	AA	APHA 303A
Iridium	AA	APHA 303A
Iron	ICP	6010
Load	ICP	6010
Magnesium	ICP	6010
Manganese	ICP	6010
Mercury	AA, Cold vapor	7470, 7471
Molybdenum	ICP	6010
Ignitability	Penske Martin, Closed cup	1010
	Setaflash	1020
Corrosivity	dissolution	1110
Reactivity	chemical	1110
EP Toxicity	Extraction Procedure	1310
benzyl chloride	G.C.	8010
bis(2-chloroethoxymethane)	G.C.	8120, 8240
bis(2-chloroisopropyl)ether	G.C.	8120, 8240

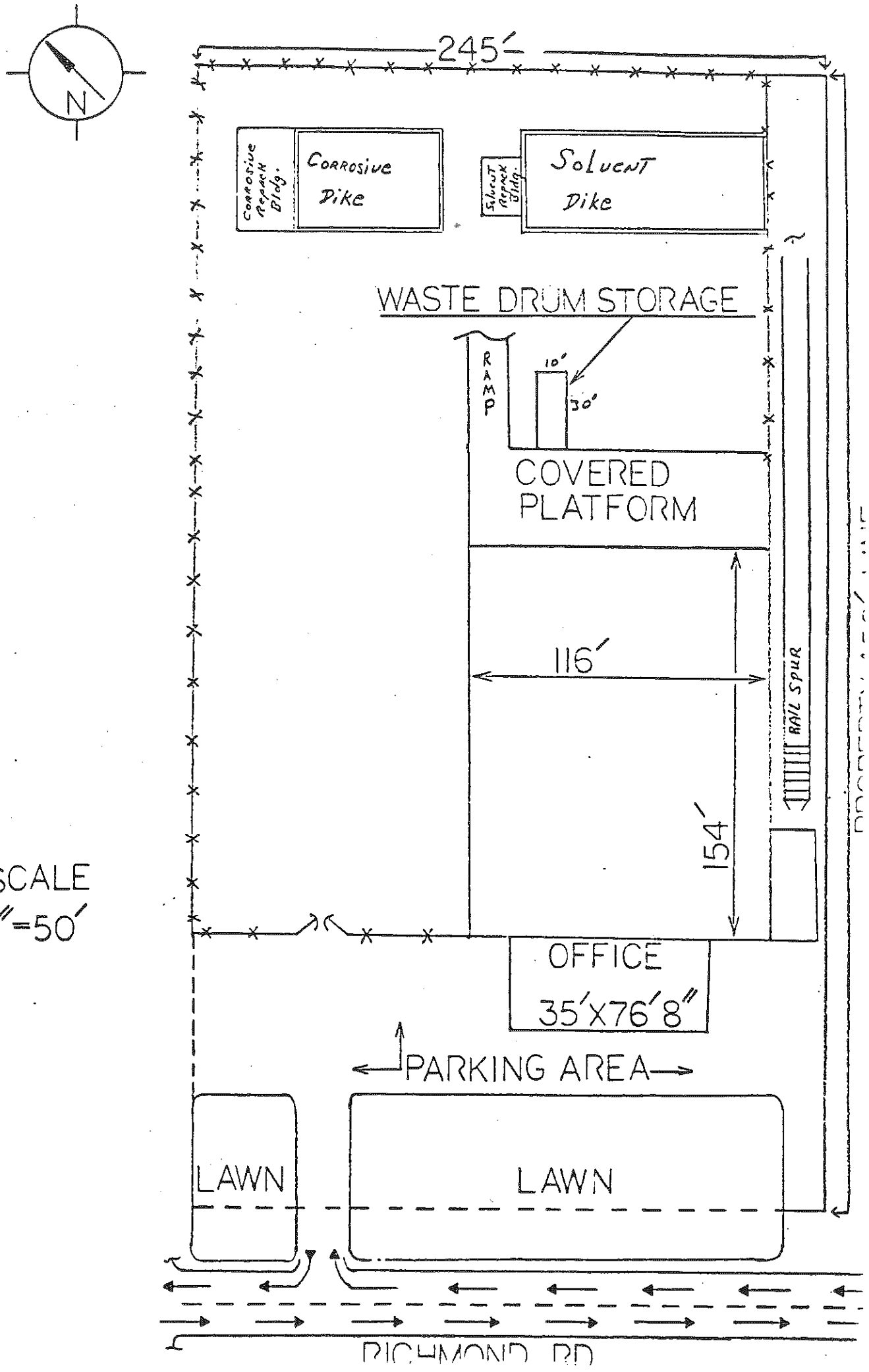
Parameter	Test Method	Method No.
Carbon disulfide	G.C.	8015
Carbon tetrachloride	G.C.	8010
chloroacetaldehyde	G.C.	8010, 8240
chlorobenzene	G.C.	8010, 8020
chloroform	G.C.	8010
chloromethane	G.C.	8015
dichlorobenzenes	G.C.	8010, 8020, 8120
diethylether	G.C.	8015
Formaldehyde	G.C.	8015, 8240
methanol	G.C.	8010, 8240
methylethyl ketone	G.C.	8015
methylisobutyl ketone	G.C.	8015
Paraldehyde	G.C.	8015
tetrachloroethanes	G.C.	8010
Trichloroethane	G.C.	8010
Trichlorofluoromethane	G.C	8010
Trichloropropane	G.C.	8010
Vinyl chloride	G.C.	8010
vinlyidene chlorde	G.C.	8010
Benzene	G.C.	8020
Toluene	G.C.	8020
Xylenes	G.C.	8020
Acetonitrile	G.C.	8030
Acrylonitrile	G.C	8030
Acrolein	G.C.	8030
2-chlorophenol	G.C.	8040
Cresols	G.C.	8040
cresylic acids	G.C	8040, 8250
2-4, dimethyphenol	G.C	8040
2-4, dinitrotoluene	G.C.	8090
4, nitrophenol	G.C.	8040
pentachlorophenol	G.C.	8040
Tetrachlorophenol	G.C.	8040
Trichlorophenol	G.C.	8040
Formic Acid	G.C.	8250
heptachlor	G.C.	8080
hexachlorethane	G.C.	8120
hexachlorocyclopratadiene	G.C.	8120
maleic anhydride	G.C.	8250
Napthoquinone	G.C.	8090, 8250
phosphorodithioic acid esters	G.C.	8140
phthalic anhydride	G.C.	8090, 8250
2-piccoline	G.C.	8090, 8250
pyridine	G.C.	8090, 8250
toluene diisocyanates	G.C.	8250
chlordane	G.C.	8080
chlorinated biphenyls	G.C.	8080, 8250
Endrin	G.C.	8080
Heptachlor	G.C.	8080

Parameter	Test Method	Method No.
Lindane	G.C.	8080
methoxychlor	G.C.	8080
Toxaphene	G.C.	8080
phthalate esters	G.C.	606
benz a anthracene	G.C.	8100, 8250
benz b fluoanthene	G.C.	8100, 8250
chrysene	G.C.	8100, 8250
Creosote	G.C.	8100, 8250
Napthalene	G.C.	8100
hexachlorobutadiene	G.C.	8120
Tetrachlorobenzene	G.C.	8120
phorate	G.C.	8140
2-4 dichlorophenoxyacetic acid	G.C.	8150
silvex (2-4-5-T)	G.C.	8150, 8250
Nickel	ICP	6010
Palladium	AA	APHA 303A
Platinium	AA	APHA 303A
Potassium	ICP	6010
Rhenium	AA	APHA 303A
Rhodium	AA	APHA 303A
Ruthenium	AA	APHA 303A
Selenium	ICP	6010
Silver	ICP	6010
Sodium	ICP	6010
Thallium	ICP.	6010
Tin	AA	Storet No.01102
Titanium	AA	Storet No.01152
Vanadium	ICP	6010
Zinc	ICP	6010
Acidity	Titrimetric	305.1
Alkalinity	Titrimetric	310.1
Bromide	Titrimetric	320.1
Chloride	Titrimetric	325.3
Chlorine	Spectrophotometric	330.5
Cyanide	Amenable to chlorination and Total	9010
Fluoride	Ion-Selective Electrode	340.2
Iodide	Titrimetric	345.1
Nitrogen	Ammonia	350.2
Nitrogen	Kjeldahl, Total	351.4
Nitrogen	Nitrate, Brucine	352.1
Nitrogen	Nitrate-Nitrite	354.1
Oxygen, Dissolved	Membrane electrode	360.1
Phosphorus	Colorimetric-Ascorbic Acid	365.2
Silica	Colorimetric	370.1
Sulfate	Gravimetric	375.3
Sulfide	Titrimetric	9030
Sulfide	Colorimetric	376.2
Oil and Grease	Gravimetric	413.1

Parameter	Test Method	Method No.
Oil and Grease	IR	413.2
Total Organic Carbon	Combustion	415.1
Petroleum hydrocarbons	IR	418.1
Phenolics, Total	Manual 4-AAP	420.1

References:

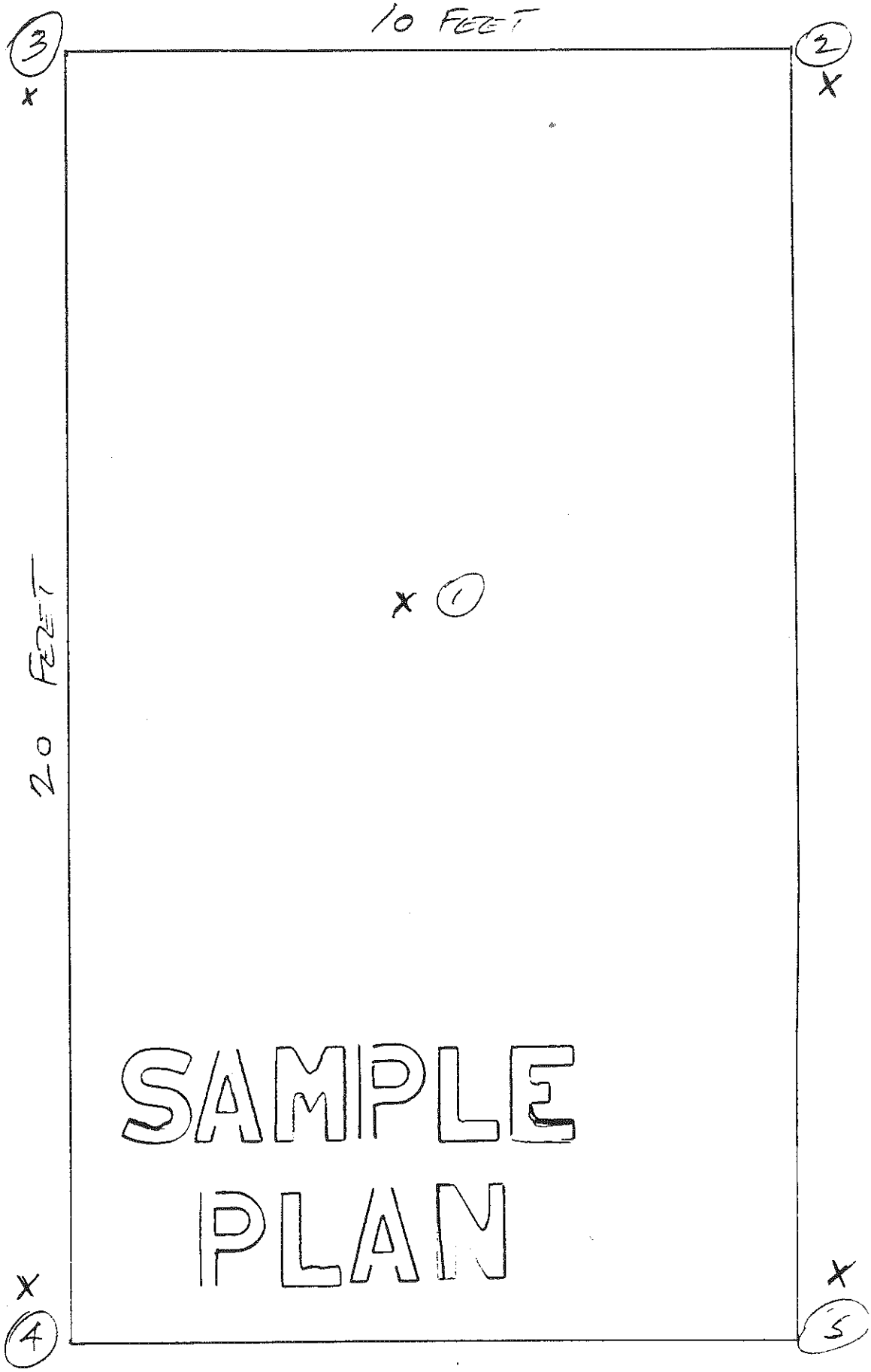
USEPA: Chemical Analysis of Water and Waste Water (EPA 600 4-79-020)
Method for Evaluationg Solid Waste (SW-846)
44FR 233 APP IV pg. 695 December 3, 1979
APHA Standard Methods for the Examination of Waste Water 16th Edition.



SCALE
1"=50'

Prepared by Chas Steele

BED. ORD HEIGHTS



SAMPLE PLAN

ANTICIPATED CLOSURE SCHEDULE - DAYS ELAPSED TIME BEDFORD HEIGHTS, OHIO

ACTIVITY	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
Approval of Closure Plan	**********																	
Receipt of final volume of hazardous waste	**********																	
Removal of final waste inventory	**********																	
Steam Cleaning of Containment area.						**********												
Sampling of rinsate from cleaning						**********	**********											
Soil Sampling								**********										
Removal/disposal of waste from sampling procedure										**********	**********							
Removal/disposal of pallets if any.	**********																	
Certification by registered Ohio engineer												*********	**********					
Submittal of certification to appropriate regulatory authority.																		**********
Withdrawal of Permit																		**********

A

MORTON L. LEVY & CO.
23260 Shaker Blvd.
Shaker Hts., Ohio 44122
216-991-9323

CONSULTING CHEMICAL ENGINEER & CHEMIST

October 30, 1989

REPORT

COMPLETION OF PART B CLOSURE REQUIREMENTS FOR THE HAZARDOUS WASTE DRUM STORAGE AREA LOCATED AT:

Van Waters & Rogers, Inc.
26601 Richmond Rd.
Bedford Hts., OH 44146

EPA ID OHD 071 107 791
Permit No. 92-18-0628

Submitted to:

Van Waters & Rogers, Inc.
Subsidiary of Univar
600 Hunter Drive
Oak Brook, IL 60521

Attn: Mr. James P. Hooper
Regional Regulatory Mgr.
Central Region

Submitted by:

Morton L. Levy, P.E.
Registerd Professional Chemical Engineer
Ohio Ser. No. E-013315

vwrbhcls.2

TABLE OF CONTENTS

B

MORTON L. LEVY, P.E.

CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Morton L. Levy Oct 30, 1989

Morton L. Levy, P.E.
Registered Professional Chemical Engineer
Ohio Ser. No. E-013315

BRIEF SUMMARY

When closure was started, indications were the major effort would be the steam cleaning of the 10' X 30' concrete pad and analyzing the rinsates for the F-solvents listed in the closure plan. Analysis failed to detect any of the listed solvents down to the detection limits.

An irregular area of approximately 1 1/2 sq. ft., grey to black in color with a slight pinkish cast, very thin and mottled, resisted the stiff brushing with detergent, repeated applications of hot water and high pressure steam. The stain was judged to be the remnants of highly weathered and degraded road tar brought in on the tires of the trucks and trailers that moved in and out of the Hazardous Waste Drum Storage Area.

A core was drilled through the concrete in the grey - black - slight pink area along with a background (BG) core from a normal area, near, but not on the limits of the Hazardous Waste Drum Storage Area.

Thin slices from the surfaces of the cores, as well as the bulk of the cores were analyzed for the toxic elements and comparisons made. The thin slices were further analyzed by infrared spectroscopy to identify any organic matter that might have been associated with the stain.

The toxic element concentrations of the stained area compared well with the BG sample and both were well within EPA limits. No organic matter of consequence was noted in either the stained area surface or the BG area surface.

NORTON L. LEVY, P.E.

This report is submitted to you for the purpose of detailing the procedures monitored by the undersigned in order to effect closure of the Hazardous Waste Drum Storage Area located at VW&R's Bedford Hts., OH facility.

Your letter dated 11/18/88 to the undersigned gave the background on the closure and included a copy of the closure plan, which was studied. A copy of your 11/18/88 letter and the closure plan are in the appendix of this report.

A copy of a letter dated 1/6/89 from Ohio EPA, by Edw. A. Kitchen, Mgr., Technical Assistance & Engineering Section, Div. of Solid & Hazardous Waste Management, states "The company is now free to begin closure activities for the hazardous waste management unit". This letter is also in the appendix.

In accordance with the closure plan, the major effort focused on the steam cleaning of the concrete floor of the 10 ft. X 30 ft. area assigned to the drum storage of the F listed solvents mentioned in the plan. A drawing supplied by VW&R (scale 1" equals 50') is attached and shows the location of the 10' X 30' Haz. Waste drum storage area in relation to the rest of the facility (see following page).

From this drawing it can be seen that True North is at an almost 45 degree angle with the VW&R property. Please note that for convenience in the text, submitted photos with their descriptions, other drawings and notes refer to North - South as being parallel to Richmond Rd. which also parallels the VW&R property. Therefore, in the text and descriptions that follow, East and West are normal (90 deg.) to Richmond Rd., even though their true directions are 45 deg. and 225 deg.

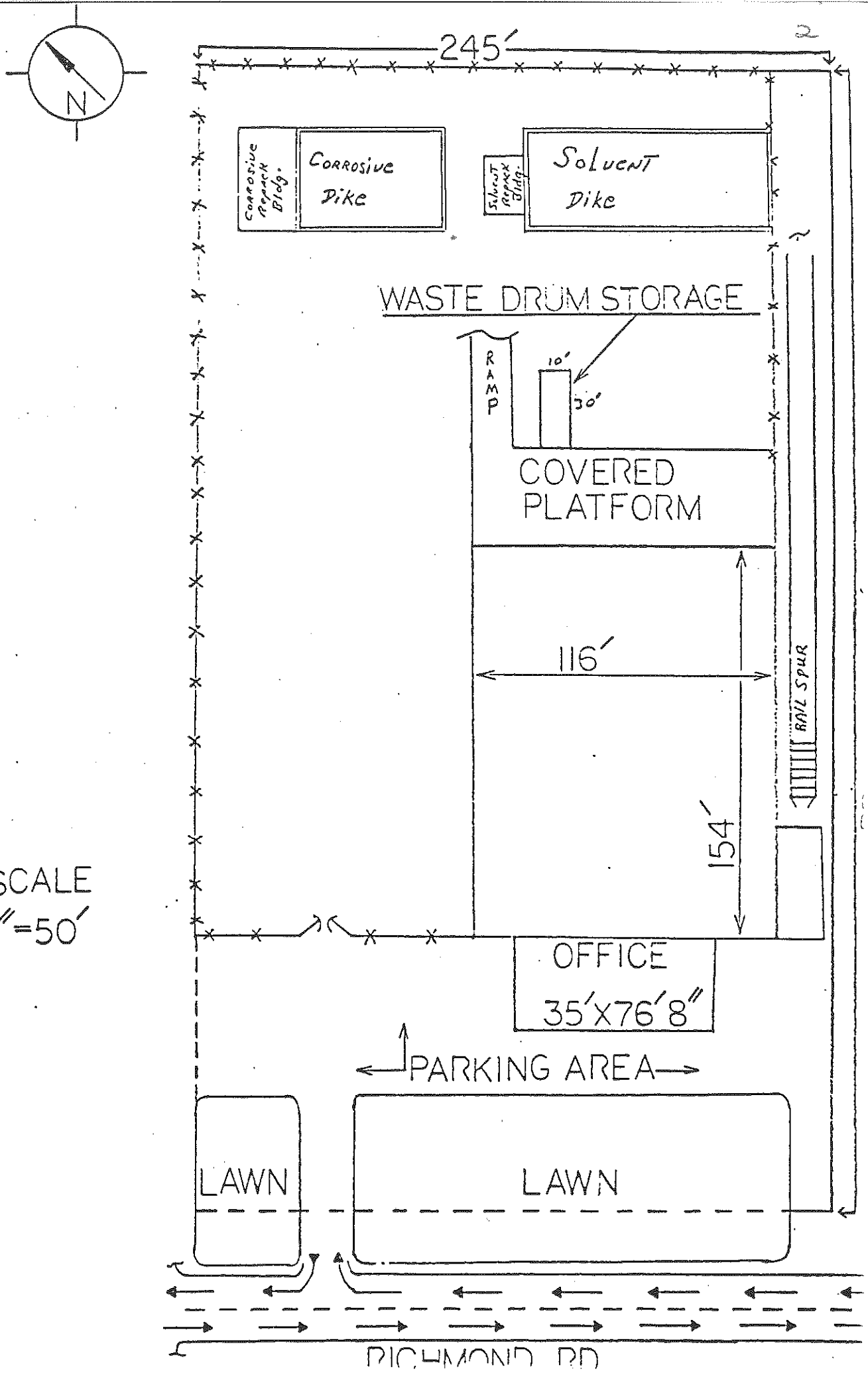
The undersigned chose to contract the steam cleaning of the 10' X 30' area to R & R International, Inc., a Pittsburgh, PA, environmental services company, with a branch office in Akron, OH. Their proposal,dated 2/28/89,is located in the Appendix.

The date of the steam cleaning was 3/30/89. The operation started at 8:40 A.M. and was completed at 2:10 PM. Three (3) new 55 gal. drums with lock ringed covers were used for sampling after each was subjected to steam cleaning and draining.

The first part of the operation was a stiff brush sweeping of the area with the gathered debris going into the first drum. This was followed by stiff brushing the area with an alkaline detergent, then vacuuming the resulting solution into the first drum. A hot water rinse of the pad was also vacuumed into the first drum.

This was followed by a first steam cleaning, with the condensed rinseate being vacuumed into the second drum. This was then followed by a second steam cleaning with the resulting condensed rinseate being vacuumed into the third drum.

Arrangements for sampling the drums were started the evening before with the undersigned picking up small sample vials with screw tops containing silicone rubber septa. This allows transferring the samples from the vials by syringe directly into gas chromatographs without having to open them. The vials were picked up at Wadsworth/Alert Laboratories, who also supplied a cold box in which to transport them.



SCALE
1"=50'

Prepared by Chas Steele

Each of the drums was sampled by first mixing the contents (swirling), then withdrawing a beaker full and transferring the contents to the vials right to the top (with a convex meniscus) so that no air bubbles were trapped when the septa containing screw type lids were applied and tightened.

The drums containing the total materials were marked 1, 2, 3 (the order in which they were filled) and the sample vials were marked accordingly. The sample vials were transported by the undersigned to Wadsworth/Alert Labs for chemical analysis. A Chain of Custody Record was made and a copy retained. Before the undersigned left for Wadsworth/Alert Labs, the contents of drum no's 2 and 3 were dumped into no.1. No's 2 and 3 were steam cleaned and the condensates emptied into no. 1. This was repeated one more time. Drum no. 1 which was now about 1/2 full was lidded, labelled Hazardous Waste and stored under cover. Drums 2 and 3 were also stored after lidding, but not labelled "Hazardous". The dispositionn of the drums would depend upon the analyticalresults of their contents.

The pages following this one consist of the undersigned's hand written note to Wadsworth/Alert Labs with the compounds required for analysis (given to W/A Labs at the time of sample submission), a formal letter dated 4/8/89 from the undersigned to W/A Labs with the compounds (solvents) required for analysis (several phone calls had been made to W/A to clarify some of the required compounds) and the analytical report from W/A Labs dated 4/17/89.

Please note that the results for all of the samples (1,2 and 3) indicate that none of the compounds requested in the analyses were detectable,with detection limits given.

The general method used by W/A for the analysis of the submitted samples was gas chromatography, SW 846-8015 for the alcohols, esters, etc., SW 846-8010 for the halogenated compounds and SW 846-8020 for the aromatics and ketones. 8015 uses a FID detector, 8010 uses a Hall detector, 8020 uses a PID detector.

Based on the analyses, the concrete pad was free of the listed solvents. Drums 2 and 3 were returned to commercial service. Though the contents of drum No. 1 was free of listed solvents (at least down to detectable limits), VW&R "is playing it safe"and will ship it to an affiliate for disposal.

The pages following the analytical results from W/A Labs consist of photographs taken during the steam cleaning operation. A cover sheet describing the photos precedes them.

Though the chemical analysis of the rinsates showed no detectable F solvents in them, the undersigned was concerned with a stain on the concrete pad which resisted removal by the method of cleaning used. Photo #31 shows the stain under and in back of Dave Hawkins (R&R Foreman). The stain is estimated at 1 1/2 sq. ft., grey to black in color with a "pinkish" cast, very thin layer and mottled. The stain was judged to be the remnants of highly weathered and degraded road tar, probably brought in on the tire treads of the semi's and trailers that moved in and out of this area.

F001, 002, 003, 005

F001 - 005 ~~F.004~~

3/27/89 1:50PM. Jim Hooper
Called. On for 3/30/89 (Thurs)

F-001 1,1,1-TCE.
F-002 $MeCl_2$
F002 ~~F001~~ Perchloroethylene
F005 Toluene
F-005 ~~MEK~~
F003 ~~F004~~ N-Propyl alcohol / Ethyl acetate
F003 ~~F005~~ Methanol
F001 Trichloroethylene
F003 Xylene
F003 Flammable mix, NOS
F003? acetone

Eileen to Darrah

Mark Levy 3/30/89 ~~9:15~~ 2:50 PM

F003 Xylene, acetone, EPA
Ethyl Benzene, Ethyl ether
MIBK, N Butyl alcohol,
MeOH, Cyclohexanone

F003 to F005 CS_2, Isobutanol, Benzene

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MORTON L. LEVY & CO.
23260 Shaker Blvd.
Shaker Hts., Ohio 44122
216-991-9323

CONSULTING CHEMICAL ENGINEER & CHEMIST

April 8, 1989

Wadsworth/Alert Laboratories, Inc.
5405 E. Schaaf Rd.
P.O. Box 31454
Cleveland, OH 44131

Attn: Mr. Dale Mori

Dear Dale;

Re: The three (3) samples brought to your laboratory for chemical analysis on 3/30/89 per your Chain of Custody Record No. 13823 dated 3/30/89 with project name VW&R.

Analysis requested on each sample included the following:

- 1,1,1-TCE
- Methylene chloride
- Perchloroethylene
- Toluene
- MEK
- N propyl alcohol/acetate*
- Methanol
- Trichloroethylene
- Xylene
- Flammable mix,NOS**

On 4/5/89, I called W/A Labs and talked to Eric (no last name given) and ammended the order as follows:

* The acetate we want is ethyl acetate, and the N propyl alcohol is still required.

** Instead of the designation Flammable mix, NOS, we need analysis of the following: Acetone, ethyl benzene, diethyl ether, methyl isobutyl ketone (MIBK), N butyl alcohol, cyclohexanone, carbon disulfide, benzene, and isobutanol (isobutyl alcohol).

The rest of the compounds in the list given in the second paragraph are still required. The only changes and additions were to the two items marked with an asterisk (s).

Very truly yours,

MORTON L. LEVY & CO.

Morton L. Levy, P.E.

Vwr.7 DD11

cc: Mr. James Hooper
Reg. Reg. Mgr.,
Central Region, VW&R

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MORTON L. LEVY & CO.
23260 Shaker Blvd.
Shaker Hts., Ohio 44122
216-991-9323

CONSULTING CHEMICAL ENGINEER & CHEMIST

April 24, 1989

Van Waters & Rogers Inc.
Subsidiary of Univar
600 Hunter Dr.
Oak Brook, IL 60521

Attn: Mr. James P. Hooper
Regional Regulatory Manager
Central Region

RE: RCRA closure
VW&R, Bedford Hts.,OH

Dear Mr. Hooper:

Please find enclosed a copy of the analytical chemistry report from Wadsworth/Alert Labs., Inc., Cleveland, Ohio, on the three samples submitted to them on the afternoon of 3/30/89.

The three samples were taken by the undersigned on 3/30/89 and transported to W/A Labs, also by the undersigned. The last page of the W/A report is a copy of the Chain of Custody Record filled out by the undersigned and countersigned by W/A's G.S. Horvath.

The three samples represented the following:

1. Liquids and grime sucked up from the 10' X 30' area after treatment w/stiff brushes & alkaline detergent, followed by hot water rinse.

2. Liquids sucked up from area after above treatment and followed by first steam cleaning.

3. Liquids sucked up from area after second steam cleaning.

None of the above samples contained any of the listed solvents for which they were tested, at least down to the detection limits.

The samples were taken directly from the drums that were used to collect the waste waters described above by filling the sample containers to the top and closing with screw caps fitted with septa, allowing direct transfer of sample by syringe to the gas chromatographs without opening the sample vials. The samples were checked for the absence of air bubbles by the undersigned and again by Wadsworth/Alert Labs upon receipt.

Sincerely yours,

MORTON L. LEVY & CO.

Morton L. Levy

Morton L. Levy

Morton L. Levy, P.E.

vwr.8
DD12

cc: Mr. Russell R. Karney,
Area Operations Mgr.

1938-1988
50 YEARS
WADSWORTH/ALERT
LABORATORIES, INC.
Sampling, testing, mobile labs
5405 E. Schaaf Rd./P.O. Box 31454/Cleveland, OH 44131/(216) 642-9151

7

ANALYTICAL REPORT

VW&R-Bedford Heights, OH

W/A Project No. 8015

Presented to :

Morton Levy

Morton L. Levy & Co.

WADSWORTH/ALERT LABORATORIES, INC.

Dale L. Mori

Dale L. Mori
Laboratory Manager - Cleveland

April 17, 1989

CORPORATE AND LABORATORY: North Canton, Ohio (216) 497-9396
LABORATORY: Cleveland, Ohio (216) 642-9151
LABORATORY: Bartow, Florida (813) 533-2150
SOUTHEAST REGIONAL OFFICE: Lexington, South Carolina (803) 957-6590
24-HOUR ALERT LINE: (216) 497-9338

WADSWORTH/ALERT
LABORATORIES, INC.

8

COMPANY: Morton L. Levy & Co.
LAB #: 8015-40061
MATRIX: WATER

DATE RECEIVED: 3/31/89
DATE EXTRACTED: NA
DATE ANALYZED: 4/ 6/89

SAMPLE ID: 1

SELECTED ORGANIC COMPOUNDS ANALYTICAL REPORT

PARAMETER	RESULT (mg/l)	DETECTION LIMIT
Methanol	ND	10
Ethyl acetate	ND	5
n-Propanol	ND	5
1,1,1-Trichloroethane	ND	0.01
Methylene chloride	ND	0.01
Tetrachloroethene	ND	0.01
Toluene	ND	0.01
2-Butanone (MEK)	ND	0.2
Xylenes	ND	0.01
Acetone	ND	0.2
Ethyl benzene	ND	0.01
Ethyl ether	ND	5
n-Butanol	ND	5
Cyclohexanone	ND	5
Carbon disulfide	ND	1
Isobutanol	ND	5
Benzene	ND	0.01
Trichloroethene	ND	0.01
4-Methyl-2-Pentanone (MIBK)	ND	0.2

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)

WADSWORTH/ALERT
LABORATORIES, INC.

9

COMPANY: Morton L. Levy & Co.
LAB #: 8015-40062
MATRIX: WATER

DATE RECEIVED: 3/31/89
DATE EXTRACTED: NA
DATE ANALYZED: 4/ 6/89

SAMPLE ID: 2

SELECTED ORGANIC COMPOUNDS ANALYTICAL REPORT

PARAMETER	RESULT (mg/l)	DETECTION LIMIT
Methanol	ND	10
Ethyl acetate	ND	5
n-Propanol	ND	5
1,1,1-Trichloroethane	ND	0.003
Methylene chloride	ND	0.003
Tetrachloroethene	ND	0.003
Toluene	ND	0.003
2-Butanone (MEK)	ND	0.05
Xylenes	ND	0.003
Acetone	ND	0.05
Ethyl benzene	ND	0.003
Ethyl ether	ND	5
n-Butanol	ND	5
Cyclohexanone	ND	5
Carbon disulfide	ND	1
Isobutanol	ND	5
Benzene	ND	0.003
Trichloroethene	ND	0.003
4-Methyl-2-Pentanone (MIBK)	ND	0.05

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)

WADSWORTH/ALERT
LABORATORIES, INC.

10

COMPANY: Morton L. Levy & Co.
LAB #: 8015-40063
MATRIX: WATER

DATE RECEIVED: 3/31/89
DATE EXTRACTED: NA
DATE ANALYZED: 4/ 6/89

SAMPLE ID: 3

SELECTED ORGANIC COMPOUNDS ANALYTICAL REPORT

PARAMETER	RESULT (µg/l)	DETECTION LIMIT
Methanol	ND	10
Ethyl acetate	ND	5
n-Propanol	ND	5
1,1,1-Trichloroethane	ND	0.001
Methylene chloride	ND	0.001
Tetrachloroethene	ND	0.001
Toluene	ND	0.001
2-Butanone (MEK)	ND	0.02
Xylenes	ND	0.001
Acetone	ND	0.02
Ethyl benzene	ND	0.001
Ethyl ether	ND	5
n-Butanol	ND	5
Cyclohexanone	ND	5
Carbon disulfide	ND	1
Isobutanol	ND	5
Benzene	ND	0.001
Trichloroethene	ND	0.001
4-Methyl-2-Pentanone (MIBK)	ND	0.02

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720
(216) 497-9396

Chain-of Custody Record

13823

PROJ. NO.	PROJECT NAME/LOCATION VW&R 26601 Richmond Rd Bedford Hts OH 44146	NO. OF CONTAINERS	PARAMETER	REMARKS
SAMPLERS: (Signature) Morton L. Levy				

STA. NO.	DATE 1989	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	REMARKS
#1	3/30	1105P				1	
#2	3/30	1205P				1	Please see attached sheet
#3	3/30	1405P				1	

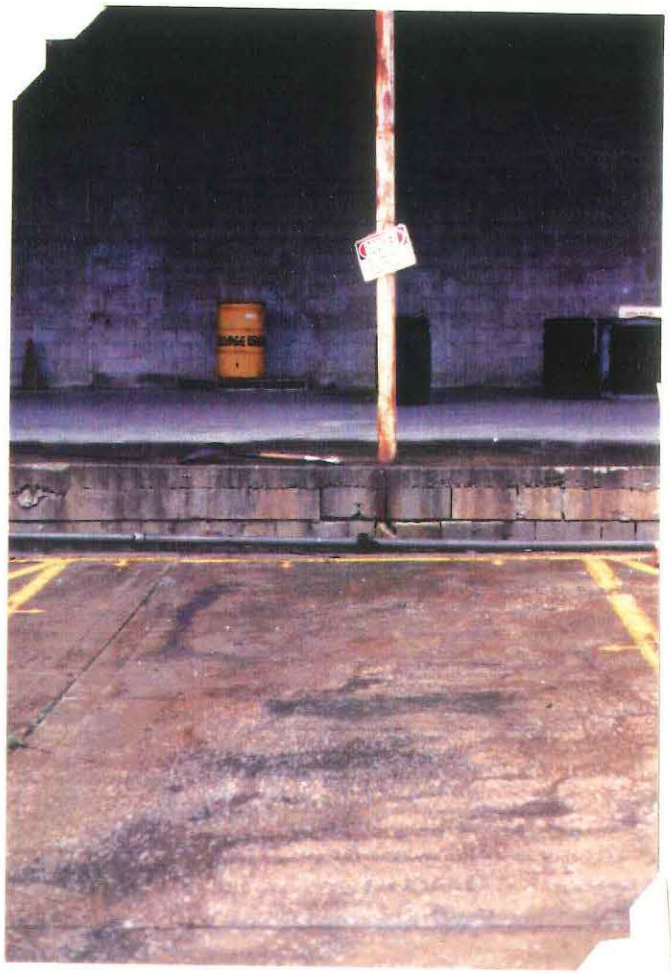
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Morton L. Levy	3/30/89 2:50P	S Howard			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	

Distribution Original Accompanies Shipment. Copy returned with Report.

Van Waters & Rogers, 26601 Richmond Rd., Bedford Hts., OH 44146.

PHOTOS TAKEN 3/30/89 DURING CLEANING IN COMPLIANCE WITH PART B CLOSURE OF HAZ WASTE DRUM STOTAGE AREA (10' X 30'). (VWRPHOTO.1).

Photo No.	Legend
1.	Partial view of closure area (approx. 10' X 20'). Looking West. Note roof suporting post (w/danger sign) marking approx. 3/8 width of closure area on West boundary. Yellow line parallel to dock retaining wall is Westerly boundary. This photo prior to cleaning operation.
3.	Same view as no.1. Showing almost complete closure area within yellow lines (except. N.E. & S.E. corners) prior to cleaning. Note hard bristle brushes against dock retaining wall used to "work in" alkaline detergent.
11.	View of dock area from N.E. to S.W. just prior to start of cleaning. Light rain falling.
17.	Steam generating unit used. View to N.E. of VWR property.
19.	Vic Evangelist,R&R Int.,Inc.(contractor) "vacuuming up"the water-detergent mix after "brush in" and "steam in". No rinsing yet.
21.	As above, another view looking Northerly.
23.	Dave Hawkins (also w/R&R Int.,Inc.) applying 1st steam and hot water rinse.
29.	As above, applying second steam and hot water rinse.
31.	Vacuuming rinseate after second steam & hot water rinse.
33.	View of Closure area (10' X 30') after cleaning completed. Sample No. 3 was taken from drum in foreground which held final rinseate.



#1

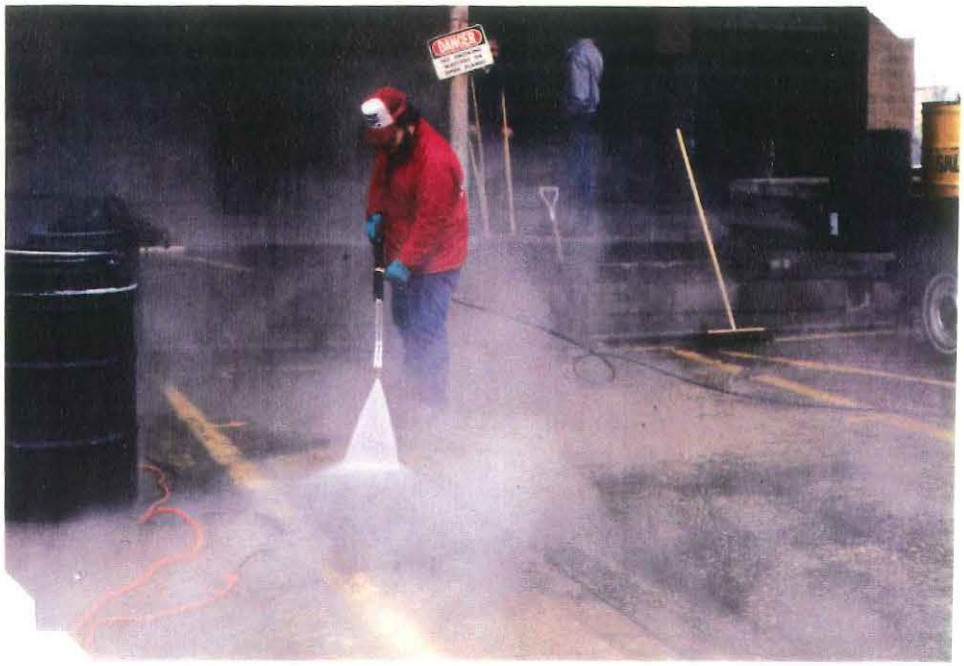
#3

#11

#17

#19

#21

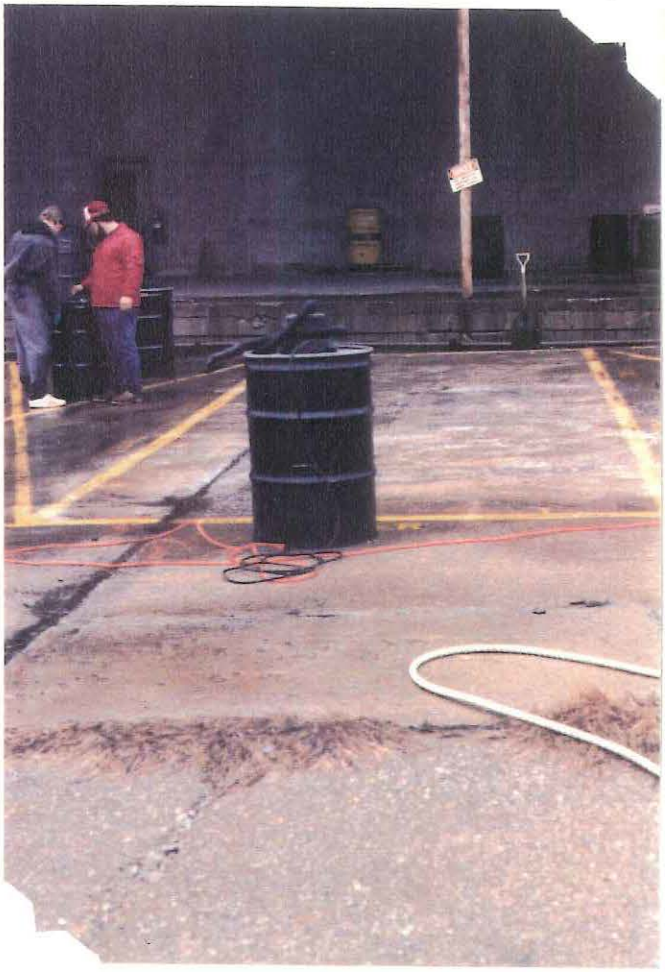


#23

#29

#31

#33



MORTON L. LEVY, P.E.

Photos no. 1 and 3 are views taken of the Hazardous Drum Storage Area prior to cleaning. The stain referred to is in the upper left hand corner of these photos. Photo #33 was taken after cleaning. Note that the area is clean and there are no visible stains, except for the spot referred to, as it is hidden from view by the drum in the foreground.

Arrangements were made to take a core sample of the concrete underlying the spotted area. A background core sample was also taken. On the next page, please find a plan view drawing showing the locations from which the core samples were taken. Core Sample No. 1 is associated with the stain, Core sample No. 2 is a background sample, taken from an adj. pad further E. and free of stain. The date of core sampling was Aug. 15, 1989 and was contracted to Applied Construction Technologies, Inc. (ACT). Mr. Jon Peterson, P.E. and a helper did the drilling. The undersigned was in attendance during the entire operation. Photos were taken of this operation and are attached to this report, along with a description sheet (VWRPHOTO.2).

The drilling of both samples went through the entire concrete bed. Sample No. 1 was 4" in dia. by 6" long. Sample No. 2 was 4" in dia. with the short side measuring 7" and the long side 8 3/4". Both sections of concrete were sound. Mr. Peterson's office prepared the the samples for analysis. A 1/8" slice was removed from the top surface of ea. core w/further slices cut at 3" and at 6" in the case of the BG sample. Mr. Peterson delivered the samples to Holk Environmental Services for chemical analysis of the sections. The 1/8" slice portions were also examined at Holk by FTIR analysis to try to determine the nature of the organics, if present.

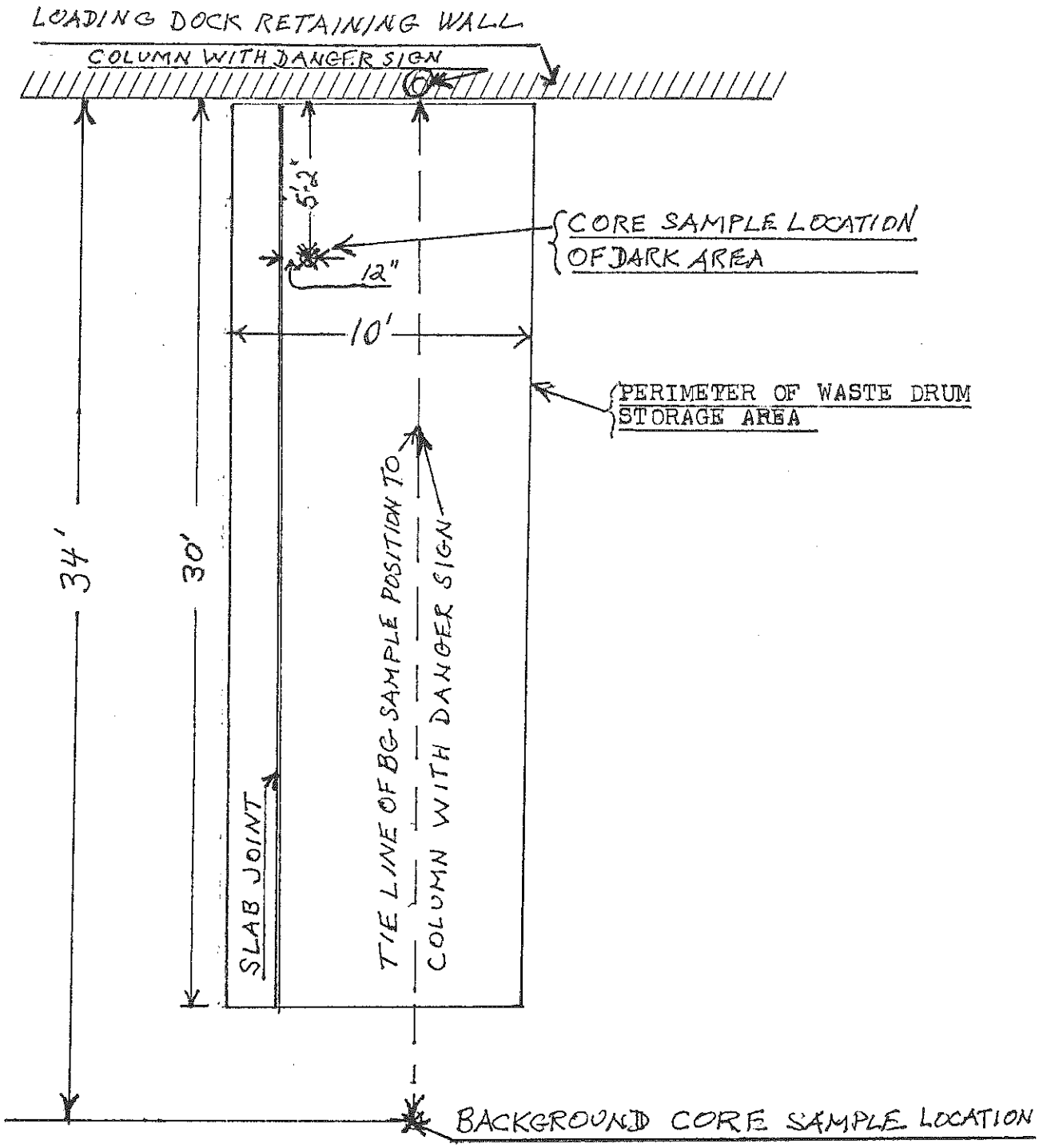
Holk was instructed to analyze all six sections (3 from the spot core and 3 from the BG core) for the Tox metals, by both the Total metal method and the Tox extractiion procedure. Both methods are standardized by EPA SW 846.

Two letters in the appendix of this report will clarify the above: a.) Ltr. dtd. 8/16/89 from the undersigned (MLL) to ACT formalizing the request for sampling and ACT's letter dated 9/8/89 to VW&R serving as a report of their work.

Holk Environmentals report of analysis (metals only) dated 9/14/89 are also in the appendix. The undersigned organized the Holk data on a spread sheet to make comparisons easier. There are no surprises in any of the tox metal analyses. The total metals are in line with Ohio farm soil analyses and the Tox extract results show that even the low total metal concentrations are not leachable.

Holk Environmental left the interpretation of their IR spectra to the undersigned. The spectra were run as Nujol mulls and the only organic matter present is the Nujol (a straight chain paraffin mineral oil) or substances that are closely related to it. There are certainly no Aromatics present or compounds with functional groups such as esters, ketones, aldehydes, urethanes, plasticizers, etc. The only difference seen between the surfaces of the two core samples is the greater scatter and absorbance in the spectrum of the stained sample surface, Sample No. 1. This could be attributed to the presence of finely divided carbon in the surface of the No. 1 sample. Visual comparison of the stain is very similar to stains that are known to have had their

LOCATION OF CORE SAMPLES, VW&R, INC., AUG.15, 1989



Drawing Prepared By MLL 9/25/89
Scale: 1 cm. = 2'

Van Waters & Rogers, 26601 Richmond Rd., Bedford Hts., OH 44146.

PHOTOS TAKEN 8/15/89 DURING CORE SAMPLING OF DARK STAINED AND BACK-GROUND LOCATION OF HAZ. WASTE DRUM STORAGE AREA, 10'x30'. (VWRPHOTO.2).

Photo No.	LEGEND
1.	View of dark stained area remaining after cleaning operation of 3/30/89. Core sampling center is 12" f/E.- W. running scroll line in concrete. Zero of ruler is at S. and runs toward N. Other coordinate for sample center is 62" in E. direction f/S.- N. running retaining wall of dock. Note that the 62" line is from the retaining wall, itself, not from the yellow line running parallel to it.
3.	View of core sample position aiming toward retaining wall, 62" f/center of sample position.
4.	Drill positioned on center mark. View toward West.
8.	Sample core, 4" dia. X 6" long, and hole from which it was removed. View f/approx. N.E.
10.	Drill positioned over Background (BG) position , located off the Haz. Waste Storage area, 34.0' f/E. edge of dock and normal to it, in line w/column on dock w/"danger"sign.
14.	View of sample hole. Camera focus on dock retaining wall.
16.	View of BG position core sample and hole from which it came, along w/equipment set up. BG sample is 4" dia. w/ length varying from 7" - 6 3/4". Note the crossed tools supporting the BG sample to keep it remaining upright.

#1

#3

4

8

VWRPHOTO.2 8/15/89

#10

#14

Pg 24

#2
16

SPREADSHEET OF ANALYTICAL RESULTS FROM CORE SAMPLES TAKEN @ VW&R 8/15/89 File # VWRCORES.WK1

	CORE SAMPLE No.1				CORE SAMPLE No.2 (BG)				
TOTAL METALS	1/8"Slice	P.P.M. 1/4"-3"	3"-6"	AVERAGE	TOTAL METALS	1/8"Slice	P.P.M. 1/4"-3"	3"-6"	AVERAGE
As	0.32	0.17	0.20	0.23	As	1.27	0.40	0.32	0.66
Ba	27.80	19.80	23.40	23.67	Ba	11.30	5.96	27.80	15.02
Cd	0.25	0.02	0.02	0.10	Cd	0.09	0.02	0.03	0.05
Cr	3.67	1.98	3.27	2.97	Cr	4.10	3.83	4.96	4.30
Pb	2.38	0.42	0.40	1.07	Pb	0.61	0.28	1.44	0.78
Hg	< 0.01	< 0.01	< 0.01	< 0.01	Hg	< 0.01	< 0.01	< 0.01	< 0.01
Se	< 0.01	< 0.01	< 0.01	< 0.01	Se	0.08	< 0.01	< 0.01	0.03
Ag	0.12	0.10	0.10	0.11	Ag	0.07	0.06	0.09	0.07
TOX. EXT.		mg/L			TOX.EXT.		mg/L		
As	< 0.01	< 0.01	< 0.01	< 0.01	As	< 0.01	< 0.01	< 0.01	< 0.01
Ba	0.35	0.34	0.40	0.36	Ba	0.14	0.16	0.17	0.16
Cd	< 0.01	< 0.01	< 0.01	< 0.01	Cd	< 0.01	< 0.01	< 0.01	< 0.01
Cr	< 0.01	< 0.01	< 0.01	< 0.01	Cr	< 0.01	< 0.01	< 0.01	< 0.01
Pb	0.02	< 0.01	< 0.01	0.01	Pb	< 0.01	< 0.01	< 0.01	< 0.01
Hg	< 0.01	< 0.01	< 0.01	< 0.01	Hg	< 0.01	< 0.01	< 0.01	< 0.01
Se	< 0.01	< 0.01	< 0.01	< 0.01	Se	< 0.01	< 0.01	< 0.01	< 0.01
Ag	< 0.01	< 0.01	< 0.01	< 0.01	Ag	< 0.01	< 0.01	< 0.01	< 0.01

source in the weathering and biodegradation of road tars and asphalts. Many of these materials, when new and fresh are known to be loaded with free carbon. When the matrix weathers and degrades, the only material left is the free carbon which tightly adsorbs to substrates .

CONCLUSIONS

1. EPA requirements for the Part B closure of the Hazardous Waste Drum Area at the VW&R Bedford Hts., OH facility , have been met.

   a.) Chemical analysis of the rinseates after steam cleaning showed no detection down to the detection limits for the F-listed solvents in the closure plan.

   b.) A "suspicious" stain that remained after the steam cleaning was properly investigated and found not to be caused by Hazardous materials.

Respectully submitted,

MORTON L. LEVY & CO.

Morton L. Levy

VWRCLS.13

Morton L. Levy
Registered Chemical Eng.
Ohio Ser. No. 13315

The undersigned's certification required by Ohio EPA and USEPA regulations appears between the title page and summary page of this report.

APPENDIX

THE ITEMS LISTED BELOW HAVE BEEN REFERRED TO IN THE TEXT OF THE REPORT WHICH PRECEDES THIS APPENDIX. THE DOCUMENTS LISTED BELOW ARE AN IMPORTANT PART OF THE REPORT AND SHOULD BE CONSULTED.

Each of the items in the appendix is numbered. The number appears on the upper right hand corner of the first (1st) page of the document.

No.	ITEM
1.	Ltr. dtd. 11/18/89 f/Mr. J.F. Hooper (VW&R) to Mr. Levy.
2.	Copy of Closure Plan.
3.	Ltr. dtd. 1/6/89 f/OEPA (Edw. A. Kitchen) to Mr. Hooper.
4.	Ltr. dtd. 2/28/89 f/R&R Int'l., Inc. (Doug Darrah) to M.Levy.
5.	Ltr. dtd. 8/16/89 f/M.Levy to ACT (Jon Peterson) confirming core sampling instructions for job of 8/15/89.
6.	Ltr. Report dtd. 9/8/89 f/ACT (Jon Peterson) to VW&R (Mr. Hooper), w/copy to Mr. Levy.
7.	Reports of Analysis f/Holk Environmental Services dtd. 9/14/89 to M.Levy w/Total Metals & EP Tox Ext. results on core samples taken 8/15/89.
8.	Infrared spectra of mulls of core sample surfaces, from Holk Environmental Serv., Inc.

OhioEPA
State of Ohio Environmental Protection Agency
O. Box 1049, 1800 WaterMark Dr.
Columbus, Ohio 43266-0149

JAN 23 REC'D

Toward A Cleaner Environment
15 Year Anniversary
1972 - 1987

Richard F. Celeste
Governor

(3)

January 6, 1989

RE: Van Waters & Rogers
OHD071107791
92-18-0628
Closure Plan

Mr. James P. Hooper
Van Waters & Rogers, Inc.
600 Hunter Drive
Oak Brook, IL 60521

Dear Mr. Hooper:

On April 12, 1988, Van Waters & Rogers, Inc. submitted to Ohio EPA a closure plan for a hazardous waste drum storage area located at 26601 Richmond Road, Bedford Heights, Ohio. On October 11, 1988, Ohio EPA submitted a letter to your office requesting additional information and action in order to facilitate the processing of the closure plan. Ohio EPA has since received a letter from Van Waters & Rogers, Inc. (October 18, 1988) requesting that the April 12, 1988 closure plan be disregarded and that the company wished to begin the Part B closure of the hazardous waste drum storage area. Ohio EPA accepts your April 12, 1988 letter as the official notification of closure under the Part B permit in accordance with the regulations. The company is now free to begin closure activities for the hazardous waste management unit.

If you have any further questions regarding this matter, feel free to contact either myself or Paul Vandermeer of my staff at the following phone number: (614) 644-2956.

Sincerely,

Edward A. Kitchen

Edward A. Kitchen, Manager
Technical Assistance & Engineering Section
Division of Solid and Hazardous Waste Management

cc: Paul Vandermeer, DSHWM, Ohio EPA
Sheryl Slone, NEDO
Dave Wertz, NEDO
Lisa Pierard, USEPA Region V

R&R
INTERNATIONAL,INC.

1234 S. CLEVELAND-MASSILLON ROAD
P.O. BOX 4383,
AKRON, OHIO 44321
(216) 666-2200

February 28, 1989

Mr. Morton L. Levy
23260 Shaker Blvd.
Shaker Heights, OH 44122

RE: Concrete Pad Cleaning for
RCRA Closure Plan

Dear Mr. Levy,

Please find enclosed our cost breakdown for the above referenced project.

A two man work crew will be used to clean the pad. The first step in the process will be to manually apply a cleaning solution and use brooms to scrub the pad. A wet/dry vacuum will be used to remove the liquids from the surface of the pad and place the liquids in a DOT 55 gallon drum. The pad will than be steam cleaned using a high pressure self contained unit. The water on the pad will be removed in the same manner as previously described. All drums containing cleaning fluids will be disposed of by the owners of the pad.

Our price to perform this work will be at a not-to-exceed cost of $1,494.50. The estimated time to complete this job is one day.

We look forward to working with you on this project and invite you to contact our office when we may be of further assistance.

Respectfully Yours,

R & R INTERNATIONAL, INC.

Doug Darrah

Douglas A. Darrah
Environmental Services

DD/ad
enclosure (2)

(5)

MORTON L. LEVY & CO.
23260 Shaker Blvd.
Shaker Hts., Ohio 44122
216-991-9323

CONSULTING CHEMICAL ENGINEER & CHEMIST

August 16, 1989

Applied Construction Technologies Inc.
1619 Brook Park Rd.
Cleveland, OH 44109

Attn: Mr. Jon Peterson,
President

Pursuant to your core sampling of a concrete pad at the Bedford Hts., facility of Van Waters & Rogers, 26601 Richmond Rd., (Zip 44146), this letter will confirm the instructions given to you on 8/15/89 at the site.

You took core samples at two (2) positions, the "Red Spot Sample", 62" from the retaining wall and a Background Sample, 34' from the retaining wall. The Red Spot Sample was 4" in dia. and 6" in length. The Background (BG) sample was 4" in dia. with a long length of 8-3/4" and a short length of 7". In both cases, your drill went through the entire depth of concrete.

You are going to remove the 1st 1/8" of surface from each core, store and properly label.

You are going to cut EACH core into sections 0" - 3", 3" - 6", store and properly label. The irregularly dimensioned section left over from the BG core is to be stored and labelled as such.

Each of the above samples, with the exception of the irregularly dimensioned piece leftover from the BG sampling, is to be crushed and/or ground to pass a 40 mesh sieve. Any fines resulting should be remixed into its appropriate sample.

The ground and labelled samples should be sent to Holk Environmental Services, Inc., 7777 Wall Street, Valley View, OH 44125 (524-0888), Attn: Mr. Anthony A. Dattilo. Please notify me when the samples are ready for delivery to HOLK.

Incidentally, any extaneous material from the sample which may defy the crushing and grinding process such as rebar stock, mesh, or tramp metal should be stored separately and properly labelled as to source. These samples should also be sent to HOLK, but should be clearly marked to separate them from the normal material.

The bill for your services should be sent to: Mr. James Hooper, Regional Regulatory Mgr., Van Waters and Rogers, Inc., Subsidiary of Univar, 600 Hunter Dr., Oak Brook, IL 60521 (312-573-4340), with an advisory copy to me.

We (MLL & Co.) will also need a short concise report stating the role

ACT played in getting the samples, equipment used for same and to include any observations pertinent to this assignment. This also applies to the crushing and grinding process of the samples.

Please call with any questions as soon as possible.

Sincerely yours,

MORTON L. LEVY & CO.

Univar.11

Morton L. Levy, P.E.

cc: Mr. James P. Hooper
Mr. Russell R. Karney

ENGINEERING • TESTING • INSPECTION

APPLIED CONSTRUCTION TECHNOLOGIES, INC.

1619 BROOKPARK ROAD • CLEVELAND, OHIO 44109 • (216) 459-TEST

September 8, 1989

Van Waters & Rogers, Inc.
Subsidiary of Univar
600 Hunter Drive
Oak Brook, Illinois 60521

Attention: Mr. James Hooper
Regional Regulatory Manager

SUBJECT: VAN WATERS & ROGERS
S.O.G. CORING
26601 RICHMOND ROAD
BEDFORD HEIGHTS, OHIO

ACT PROJECT NO. 8909.02
Report No. 1 - 15 August 1989

As requested, we visited the subject site this date. We met with representatives of Van Waters and Rogers, Inc., and Morton L. Levy and Co. Two core locations were selected and identified by Mr. Levy. Coring operations were conducted at these two locations employing a portable electric drill and a 4" nominal diameter diamond drill bit.

Care was taken not to mark any test specimens so as to maintain a true chemical composition of the samples without additional externally applied components.

The two test samples were saw cut at three locations yielding a top thin lense, top 1/4" to 3", bottom 3" to 6" and a bottom segment. The thin lense, top 1/4" to 3" and bottom 3" to 6" specimens were crushed and ground as requested for each specimen and placed in separate identified plastic containers. A mortar and pestle were used for grinding operations. The samples were then delivered to Holk Environmental Services, Inc., for further analysis.

APPLIED CONSTRUCTION TECHNOLOGIES, INC.
Jon H. Peterson, P. E.
C. J. Peterson, Field Technician
by:

JON H. PETERSON, P. E.
Technical Director

JHP:fz
lcc: Morton L. Levy & Co.

HOLK ENVIRONMENTAL SERVICES, INC.

7777 Wall Street
Valley View, Ohio 44125
(216) 524-0888
FAX (216) 524-2090

Date Received: 8-18-89

Customer I.D.: Core #1, 1/8" Slice
Van Waters & Rogers

P.O.#: vb. ML/TD

Morton L. Levy & Co.
23260 Shaker Blvd.
Shaker Hts., Ohio 44122

Date Reported: 9-14-89

HOLK-Lab #: H8921-1

Description: core sample of
concrete pad

TOTAL METALS

Arsenic	0.32 ppm
Barium	27.8 ppm
Cadmium	0.25 ppm
Chromium	3.67 ppm
Lead	2.38 ppm
Mercury	<0.01 ppm
Selenium	<0.01 ppm
Silver	0.12 ppm

EP TOXIC EXTRACTION (SW-846; Method 1310)

	Results (mg/l)	EP Tox Standard (mg/l)
Arsenic	<0.01	5.0
Barium	0.35	100.0
Cadmium	<0.01	1.0
Chromium	<0.01	5.0
Lead	0.02	5.0
Mercury	<0.01	0.2
Selenium	<0.01	1.0
Silver	<0.01	5.0

Ronald A. Baraona

Ronald A. Baraona
LABORATORY MANAGER

RAB/tlg

The foregoing is limited to findings based upon material received for analysis and/or information furnished by client. Samples received will be disposed of after 30 days.

HOLK ENVIRONMENTAL SERVICES, INC.

7777 Wall Street
Valley View, Ohio 44125
(216) 524-0888
FAX (216) 524-2090

Date Received: 8-18-89

Customer I.D.: Core #1
Top 1/4 - 3" Van Waters & Rogers
P.O.#: vb. ML/TD
Date Reported: 9-14-89
HOLK-Lab #: H8921-2
Description: core sample of concrete pad

Morton L. Levy & Co.
23260 Shaker Blvd.
Shaker Hts., Ohio 44122

TOTAL METALS

Arsenic	0.17 ppm
Barium	19.8 ppm
Cadmium	0.02 ppm
Chromium	1.98 ppm
Lead	0.42 ppm
Mercury	<0.01 ppm
Selenium	<0.01 ppm
Silver	0.10 ppm

EP TOXIC EXTRACTION (SW-846; Method 1310)

	Results (mg/l)	EP Tox Standard (mg/l)
Arsenic	<0.01	5.0
Barium	0.34	100.0
Cadmium	<0.01	1.0
Chromium	<0.01	5.0
Lead	<0.01	5.0
Mercury	<0.01	0.2
Selenium	<0.01	1.0
Silver	<0.01	5.0

Ronald A. Baraona
Ronald A. Baraona
LABORATORY MANAGER

RAB/tlg

The foregoing is limited to findings based upon material received for analysis and/or information furnished by client. Samples received will be disposed of after 30 days.

HOLK ENVIRONMENTAL SERVICES, INC.

7777 Wall Street
Valley View, Ohio 44125
(216) 524-0888
FAX (216) 524-2090

Date Received: 8-18-89

Customer I.D.: Core #1
Bottom 3 - 6" Van Waters & Rogers
P.O.#: vb. ML/TD

Morton L. Levy & Co.
23260 Shaker Blvd.
Shaker Hts., Ohio 44122

Date Reported: 9-14-89
HOLK-Lab #: H8921-3
Description: core sample of concrete pad

TOTAL METALS

Arsenic	0.20 ppm
Barium	23.4 ppm
Cadmium	0.02 ppm
Chromium	3.27 ppm
Lead	0.40 ppm
Mercury	<0.01 ppm
Selenium	<0.01 ppm
Silver	0.10 ppm

EP TOXIC EXTRACTION (SW-846; Method 1310)

	Results (mg/l)	EP Tox Standard (mg/l)
Arsenic	<0.01	5.0
Barium	0.40	100.0
Cadmium	<0.01	1.0
Chromium	<0.01	5.0
Lead	<0.01	5.0
Mercury	<0.01	0.2
Selenium	<0.01	1.0
Silver	<0.01	5.0

Ronald A. Baraona
Ronald A. Baraona
LABORATORY MANAGER

RAB/tlg

The foregoing is limited to findings based upon material received for analysis and/or information furnished by client. Samples received will be disposed of after 30 days.

HOLK ENVIRONMENTAL SERVICES, INC.

7777 Wall Street
Valley View, Ohio 44125
(216) 524-0888
FAX (216) 524-2090

Date Received: 8-18-89

Customer I.D.: Core #2, 1/8" Slice
Van Waters & Rogers

P.O.#: vb. ML/TD

Morton L. Levy & Co.
23260 Shaker Blvd.
Shaker Hts., Ohio 44122

Date Reported: 9-14-89

HOLK-Lab #: H8921-4

Description: core sample of
concrete pad

TOTAL METALS

Arsenic	1.27 ppm
Barium	11.3 ppm
Cadmium	0.09 ppm
Chromium	4.10 ppm
Lead	0.61 ppm
Mercury	<0.01 ppm
Selenium	0.08 ppm
Silver	0.07 ppm

EP TOXIC EXTRACTION (SW-846; Method 1310)

	Results (mg/l)	EP Tox Standard (mg/l)
Arsenic	<0.01	5.0
Barium	0.14	100.0
Cadmium	<0.01	1.0
Chromium	<0.01	5.0
Lead	<0.01	5.0
Mercury	<0.01	0.2
Selenium	<0.01	1.0
Silver	<0.01	5.0

Ronald A. Baraona

Ronald A. Baraona
LABORATORY MANAGER

RAB/tlg

The foregoing is limited to findings based upon material received for analysis and/or information furnished by client. Samples received will be disposed of after 30 days.

HOLK ENVIRONMENTAL SERVICES, INC.

7777 Wall Street
Valley View, Ohio 44125
(216) 524-0888
FAX (216) 524-2090

Date Received: 8-18-89

Customer I.D.: Core #2
Top 1/4 - 3" Van Waters & Rogers
P.O.#: vb. ML/TD
Date Reported: 9-14-89
HOLK-Lab #: H8921-5
Description: core sample of concrete pad

Morton L. Levy & Co.
23260 Shaker Blvd.
Shaker Hts., Ohio 44122

TOTAL METALS

Arsenic	0.40 ppm
Barium	5.96 ppm
Cadmium	0.02 ppm
Chromium	3.83 ppm
Lead	0.28 ppm
Mercury	<0.01 ppm
Selenium	<0.01 ppm
Silver	0.06 ppm

EP TOXIC EXTRACTION (SW-846; Method 1310)

	Results (mg/l)	EP Tox Standard (mg/l)
Arsenic	<0.01	5.0
Barium	0.16	100.0
Cadmium	<0.01	1.0
Chromium	<0.01	5.0
Lead	<0.01	5.0
Mercury	<0.01	0.2
Selenium	<0.01	1.0
Silver	<0.01	5.0

Ronald A. Baraona
Ronald A. Baraona
LABORATORY MANAGER

RAB/tlg

The foregoing is limited to findings based upon material received for analysis and/or information furnished by client. Samples received will be disposed of after 30 days.

HOLK ENVIRONMENTAL SERVICES, INC.

7777 Wall Street
Valley View, Ohio 44125
(216) 524-0888
FAX (216) 524-2090

Date Received: 8-18-89

Customer I.D.: Core #2
Bottom 3 - 6" Van Waters & Rogers
P.O.#: vb. ML/TD

Morton L. Levy & Co.
23260 Shaker Blvd.
Shaker Hts., Ohio 44122

Date Reported: 9-14-89
HOLK-Lab #: H8921-6
Description: core sample of concrete pad

TOTAL METALS

Arsenic	0.32 ppm
Barium	27.8 ppm
Cadmium	0.03 ppm
Chromium	4.96 ppm
Lead	1.44 ppm
Mercury	<0.01 ppm
Selenium	<0.01 ppm
Silver	0.09 ppm

EP TOXIC EXTRACTION (SW-846; Method 1310)

	Results (mg/l)	EP Tox Standard (mg/l)
Arsenic	<0.01	5.0
Barium	0.17	100.0
Cadmium	<0.01	1.0
Chromium	<0.01	5.0
Lead	<0.01	5.0
Mercury	<0.01	0.2
Selenium	<0.01	1.0
Silver	<0.01	5.0

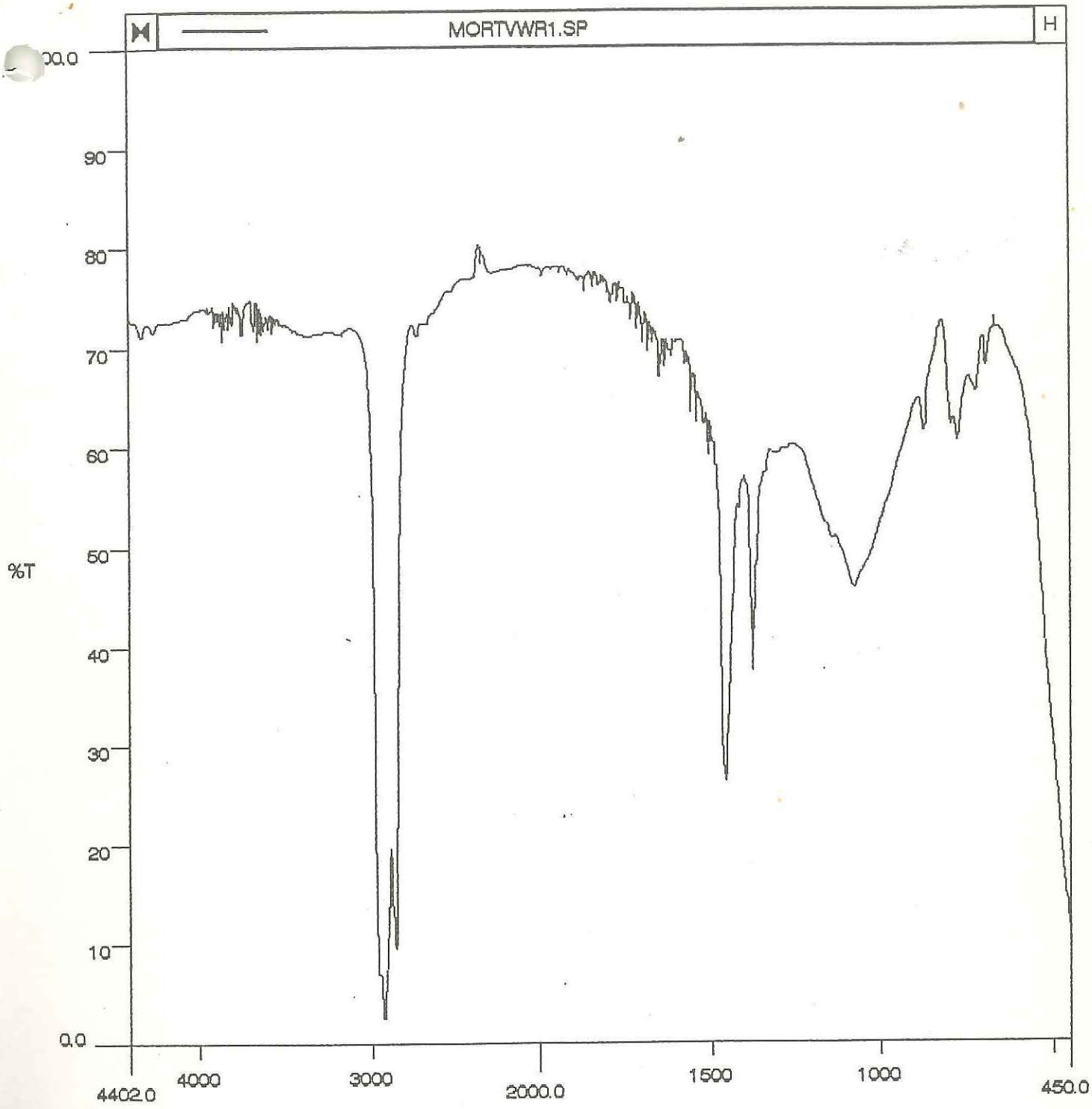
Ronald A. Baraona
LABORATORY MANAGER

RAB/tlg

The foregoing is limited to findings based upon material received for analysis and/or information furnished by client. Samples received will be disposed of after 30 days.

Surface Sample 1

(8)



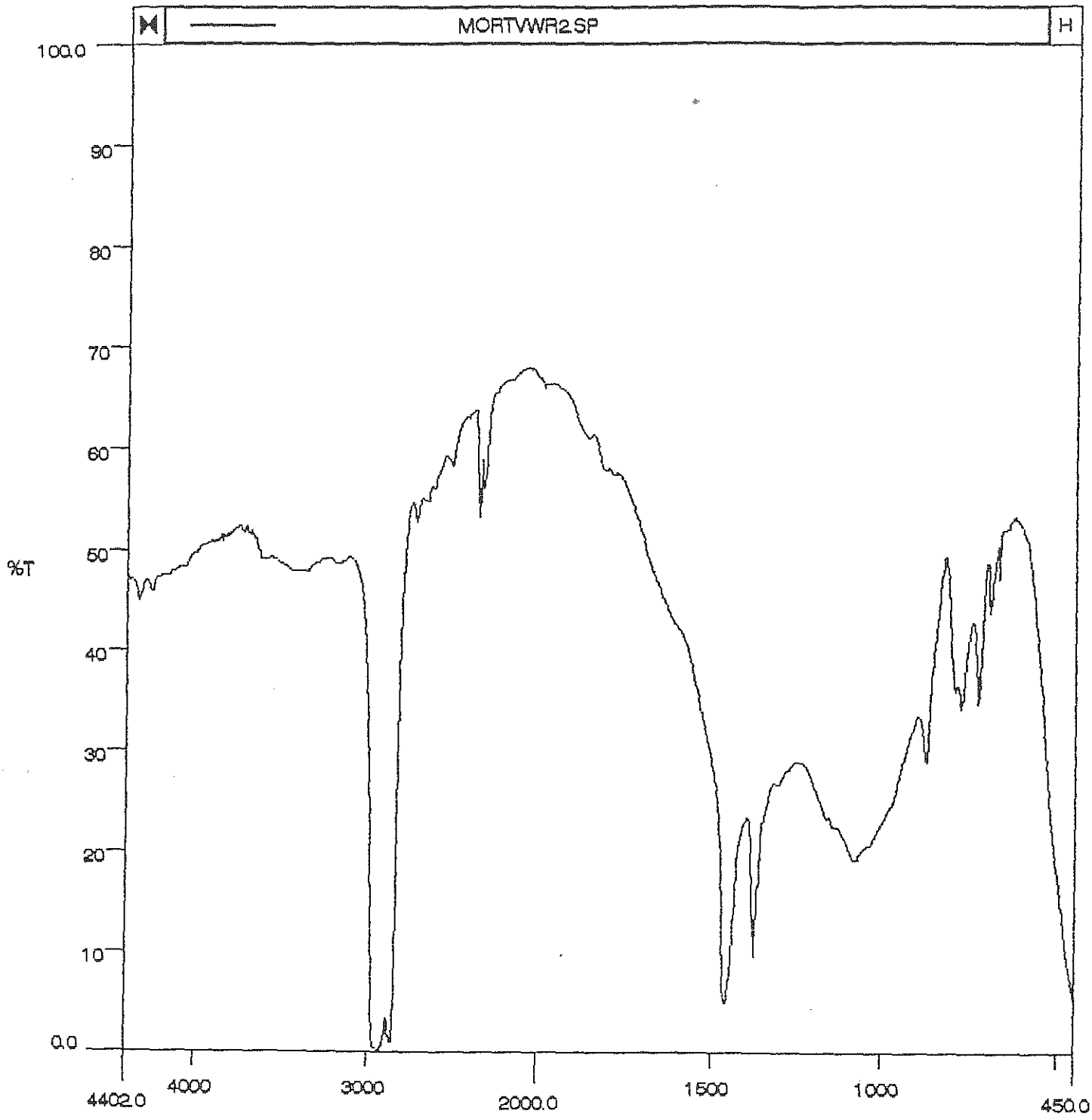
Filename	#pts	start	end	min	max	res	ord	acc
MORTVWR1.SP	1977	4402.00	450.00	2.50	80.23	0.00	%T	4

REF 4000.00 73.93 2000.00 77.97

4328.0	71.20	4256.0	71.68	3900.0	72.19	3880.0	72.82	3870.0	72.39
3852.0	70.88	3838.0	71.98	3820.0	72.07	3800.0	72.53	3744.0	71.44
3734.0	71.70	3710.0	72.84	3688.0	72.78	3674.0	71.92	3648.0	70.83
3628.0	71.49	3618.0	71.97	3586.0	72.00	3566.0	71.61	3362.0	71.30
2952.0	6.87	2924.0	2.50	2854.0	9.60	2724.0	71.22	2348.0	78.50
1994.0	77.26	1868.0	75.73	1844.0	76.17	1828.0	76.32	1792.0	74.64
1772.0	74.65	1734.0	72.80	1716.0	71.90	1700.0	70.57	1684.0	69.66
1670.0	70.58	1652.0	67.16	1646.0	68.27	1636.0	68.18	1616.0	69.14
1576.0	68.38	1558.0	63.43	1540.0	62.43	1520.0	62.26	1506.0	59.19
1458.0	26.14	1376.0	37.40	1078.0	45.74	874.0	61.49	778.0	60.56

END 52 PEAK(S) FOUND

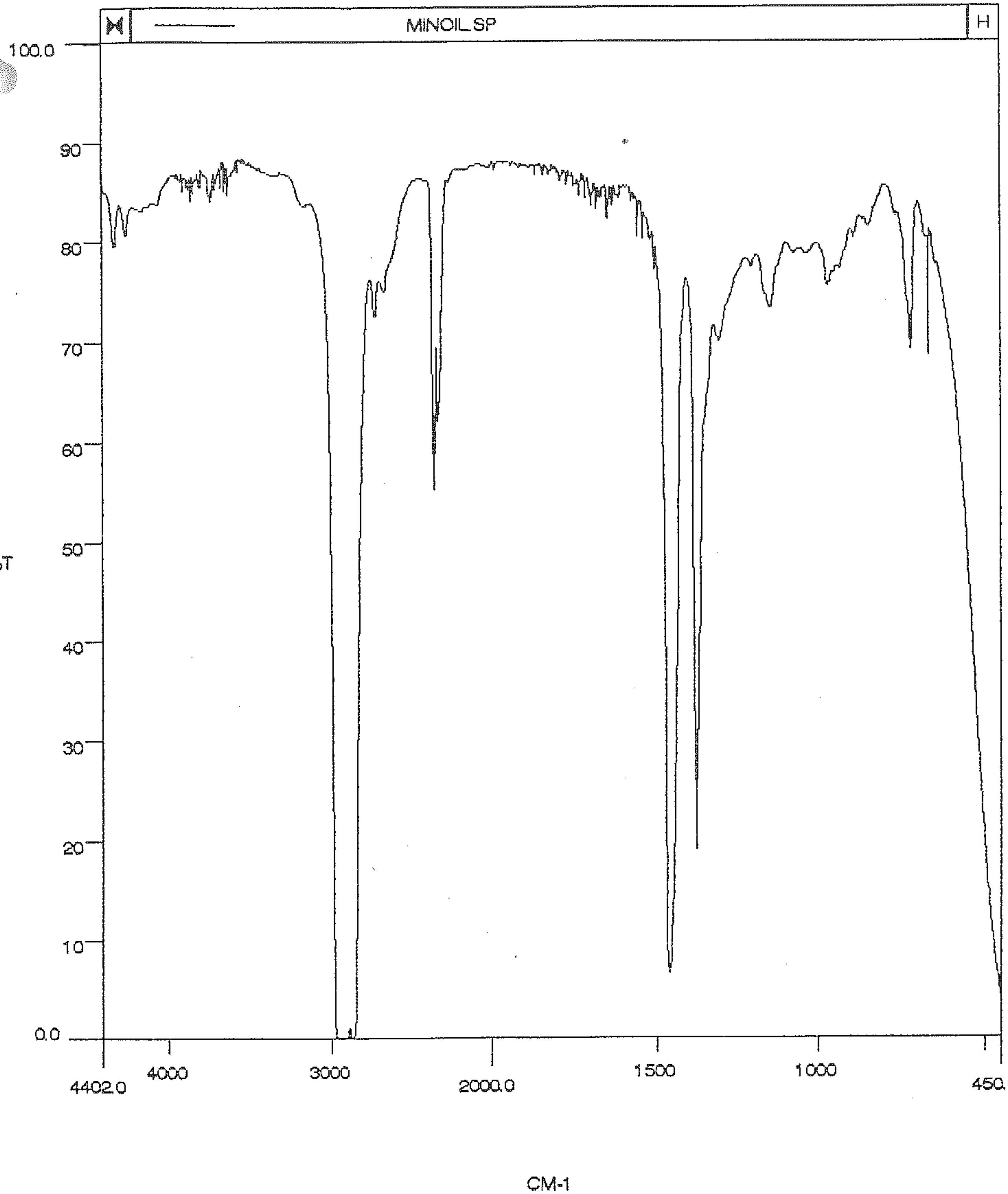
Surface Sample 2 (BG)



CM-1

```
Filename      #pts    start     end       min       max       res  ord acc
MORTVWR2.SP   1977   4402.00   450.00    0.13      68.12     0.00  %T  4
mull
REF   4000.00   49.90   2000.00   66.75

 4328.0   44.88   4258.0   45.86   3848.0   50.96   3730.0   51.76   3396.0   47.81
 3180.0   48.59   2930.0    0.13   2854.0    0.88   2724.0   52.75   2520.0   58.39
 2360.0   53.26   2340.0   56.16   1460.0    4.85   1376.0    9.58   1078.0   19.04
  876.0   28.80    796.0   35.73    778.0   34.21    728.0   34.60    694.0   43.77
  668.0   47.06


END   21 PEAK(S) FOUND
```

St. nujol

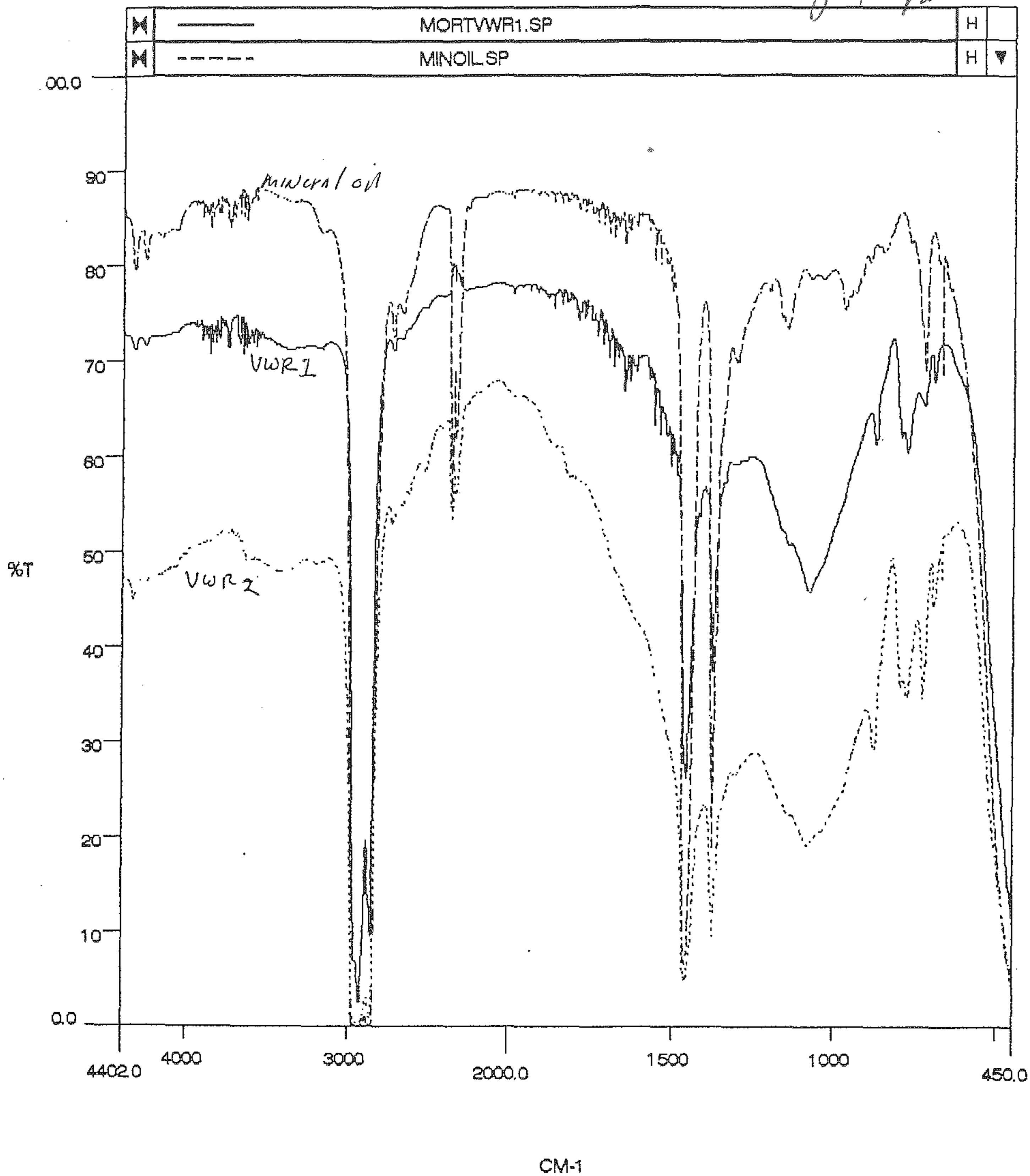

MINOIL.SP
H
100.0
90
80
70
60
50
40
30
20
10
0.0
%T
4402.0
4000
3000
2000.0
1500
1000
450.0
CM-1

```
Filename      #pts    start     end       min       max       res  ord acc
M:  IL.SP     1977   4402.00   450.00    0.03      88.46     0.00  %T  4
.2 mm thick nacl
REF  4000.00  86.14  2000.00  88.06

 4256.0   80.75   3900.0   85.23   3870.0   85.42   3852.0   84.11   3838.0   85.06
 3820.0   85.14   3800.0   85.59   3744.0   84.74   3734.0   84.06   3710.0   85.35
 3688.0   85.66   3674.0   85.62   3648.0   85.29   3628.0   84.92   3566.0   87.06
 2926.0    0.03   2858.0    0.12   2724.0   72.60   2670.0   75.16   2360.0   55.25
 2340.0   62.05   1868.0   86.82   1844.0   86.70   1792.0   86.24   1772.0   85.79
 1734.0   84.71   1716.0   84.38   1700.0   83.48   1684.0   83.16   1670.0   84.29
 1652.0   82.37   1636.0   83.53   1616.0   84.30   1576.0   83.93   1558.0   80.43
 1540.0   80.24   1506.0   77.17   1460.0    6.60   1376.0   18.90   1306.0   70.06
 1208.0   77.44   1152.0   73.35   1074.0   78.67    972.0   75.61    850.0   81.43
  722.0   69.18    668.0   68.67

END  47 PEAK(S) FOUND
```

2340.0
2360.0
2359.7
} 4.24 CO_2

PE ~~300~~ 1600 Series FTIR

all 3 in juxtaposition



(1)

Van Waters & Rogers Inc.

subsidiary of Univar

600 HUNTER DRIVE
OAK BROOK, IL 60521
PHONE (312) 573-4300

CERTIFIED MAIL #P952-620-496
RETURN RECEIPT REQUESTED

November 18, 1988

Mr. Morton L. Levy
Morton L. Levy & Company
23260 Shaker Blvd
Shaker Heights, OH 44122

RE: RCRA Closure
Van Waters & Rogers Inc.
Bedford Heights, Ohio

Dear Mr. Levy:

In early April of this year, we sent you a RCRA closure plan for our Bedford Heights hazardous waste container storage unit. The plan was also sent to the Ohio Environmental Protection Agency. Since then, the Ohio EPA has informed us that it was not necessary for us to have submitted that plan because we already had a plan approved in our Part B permit for the storage of containers of hazardous waste. They also stated that we may proceed with closure in accordance with the plan in our Part B permit.

Enclosed is a copy of the plan from our permit for your review. We would like to begin closure as soon as possible and have you act as the independent registered professional engineer certifying closure as required by OAC 3745-55-15. Would you please review the enclosed plan and let me know if you would be interested in working with us to close the Bedford Heights facility. After your review, please call me so that we may discuss the details of closure activities.

Very truly yours,

James P. Hooper

Rec'd 11/28/88

James P. Hooper
Regional Regulatory Manager
Central Region

JPH:be

Enclosure

COPIES TO: Russ Karney, Cleveland Area Office
R. D. Hickman
File

Dir. line 312-573-4340

(2)

Van Waters & Rogers Inc.

Closure and Post-Closure Plans

(40 CFR Sec. 122.25(a)(13), 264.111 - 264.120, 264.78, 264.197
264.258, 122.25(a)(14), 122.25(a)(15), 264.142)

This section outlines the steps which the subject VW&R storage facility will follow in a closure situation in order to comply with applicable sections as outlined in the Resource Conservation and Recovery Act.

Because this facility functions as only an accumulation and transfer point for containerized spent solvents destined for recycling partial closure is not relevant. Because the accumulation and transfer of materials which may be classified as hazardous wastes is but a small portion of the total business at this facility, and due to the fact that this activity is the sole reason for VW&R being involved in the requirements of this legislation, there exist no partial closure situations. This facility, as it pertains to hazardous waste management activities, is either active or totally inactive as a storage facility. For this reason, partial closure will not be addressed.

It should be further noted that because of the nature of the activity at this facility, that accumulation and temporary storage of spent solvents in drums until economic truckloads can be shipped to a recycling facility, a post-closure plan will not be required because materials are being continually removed from this facility; in a closure situation, all materials would be removed in a similar fashion as practiced in routine day-to-day business.

VW&R will maintain a copy of this closure plan at the facility. The Company is aware that should this facility contemplate

closure of the site, the EPA, Regional Administrator, and the comparable state agency must be notified at least 180 days prior to the date that the Company closes the facility.

VW&R will continue to operate business at this facility as long as it is deemed economically viable by the Company, and so long as its operation is otherwise permitted by applicable law. The Company is thus, at this time, unable to specify anticipated date of closure.

The Company is aware that upon completion of closure, it shall be required to submit to the Regional EPA Administrator and the comparable state agency a certification by both VW&R and an independent registered professional engineer that the facility has been closed in accordance with the outlined proceedings contained in the approved closure plan.

Procedures developed by VW&R for managing waste materials are designed to ensure the facility's compliance with applicable laws, and to eliminate any necessity for further maintenance or control to prevent threats to human health or the environment. As outlined in the section entitled "Secondary Containment System Design and Operation", any evidence of unintentional leakage and subsequent containment will be sampled and analyzed to determine the specific contaminant and degree of clean up necessary. All contaminated materials will be removed and disposed of at a permitted disposal facility. The containment area shall be regraded to the original design in the event of surface material removal. The container(s) which indicate release of material shall be found, segregated, and handled in the proper manner to alleviate further release of material in accordance with Company procedures. The incident shall be reported and documented as appropriate based upon severity

and circumstances.

Due to the nature of VW&R involvement in hazardous waste management, it becomes extremely difficult to be specific on the maximum quantities and types of material which would be on hand in a closure situation.

Factors such as economic conditions, seasonal trends, and market growth will impact a particular generator's rate of use of materials, and thus affect the amount of materials shipped to this location for temporary storage and eventual recycling.

In no case, will this facility store more than 110 55 gallon drums at any one time. In the majority of cases, the maximum number of containers held at any one time will be below this quantity. Under the typical mode of operation at this facility, when a full truckload quantity of material is accumulated (typically 70 - 80 drums), it will be shipped to a recycling center. The reason for the higher maximum quantity is to facilitate peaks in shipments of spent materials from generators, scheduling requirements, etc.

In the event that VW&R made an assessment that it were to initiate closing of this site as a hazardous waste storage facility, we are aware of the required 180 day notice period required by the EPA. In the event that closure of this facility were to be undertaken, notices would be sent to present generators employing our services to inform them of our pending discontinuation of receiving their waste materials. All materials shall be removed from the site within 90 days of receipt of the final volume of

waste and total closure activities will be completed with 180 days as required as a maximum.

Once formal approval of the planned closure procedures are received from the agency, the anticipated total time required to schedule trucks into the facility, load up all drummed material, and clean (if required) the containment area is a maximum of ten days. Although all inventory in storage at the time of closure would be presumed to be material destined for recycling, for computations of this closure plan we are assuming the inventory at closure will need to be disposed of. If, in fact, the waste inventory is capable of being recycled, such a mode of operation would be undertaken and the refined material could be sold through another of VW&R distribution branches. Based upon this type of dealing with the materials on hand at the time of closure, the cost of closure would be greatly reduced because of the economic value realized from the sale of the refined material. Regardless, we have taken a "worst case" posture in calculating the cost of closure by assuming disposal.

VW&R does not foresee nor anticipate the need for requesting any extensions for closure time for this facility.

Because this facility functions strictly as a storage facility, with no treatment or disposal at this location, decontamination activities would not be anticipated to be necessary.

If for some unforeseeable reason it were discovered that decontamination were necessary, this would be accomplished simultaneously with other closure preparation so that shipment of decontamination material could be shipped along

with the other inventory for disposal. For purposes of this closure calculation, we are assuming a worst possible situation in calculating decontamination necessity. Decontamination would be accomplished by utilizing a pressurized steam cleaning unit.

All waste and waste containers will be disposed of through McKesson Envirosystems.* As mentioned earlier, we would fully anticipate all waste items in storage at closure to be capable of being recycled, but for purposes of this calculation we are assuming that materials would be transferred to McKesson Envirosystems.* No pretreatment would be required before material were readied for shipment. Prior to loading, all drums would be inspected for leakage, damage, and proper labelling. Proper manifest forms will be completed for the movement.

None of the equipment utilized at this facility would be required to be disposed of due to its utilization in waste management. At most, a simple rinse-off utilizing the pressurized steam cleaning equipment would be necessary of the forklift.

It should be noted that VW&R at this location, does not have tanks which are utilized for the management of waste materials and thus, shall not be required to provide details of closure for such.

VW&R likewise does not have waste piles present at this location and thus, is not required to provide details of closure.

This closure plan and cost estimate will be kept on file at the VW&R facility. It shall be revised and resubmitted whenever a change in the closure plan affects the cost of closure. It shall be reviewed and adjusted annually to reflect changes in closure cost brought about by inflation, utilizing published index's available.

* or another permitted facility

Because VW&R at this location functions only as a hazardous waste storage facility, notation is not necessary in the deed to inform potential purchasers of restrictions.

Following is a formal Closure Plan and calculations showing how the closure cost for the facility was calculated. Although this latter figure is valid, it may be construed as being unrealistically low - but even an increase by an order of magnitude (10X) would be adequately covered by VW&R financial assurance.

CLOSURE PLAN

Facility I.D. Number OHD071107791

Owner or Operator: VW&R

Address: 26601 Richmond Road

Bedford Heights, OH

Telephone: (216) 292-7500

VW&R major business is that of nationwide distribution of organic and inorganic chemicals. It also provides various services to it's customers, which may include picking up and transporting drummed materials of wastes to central recycling facilities. This may, at times, require temporary storage at our facility of some drummed materials in order to accumulate full truckloads.

1. Facility Conditions

A. General Information:

The facility size at this location is 20,500 sq. ft. of which only a small portion (e.g., loading docks) is used for handling of waste products which are accumulated from outside generators, and are destined for recycling once full truckloads are acquired. Waste storage is accumulated in the area outside the building, designated on the Layout Diagram. All unloading area floors are of impervious concrete. The designated storage area is made of impervious concrete. Total area utilized for waste storage is approximately 10 feet by 30 feet.

Fifty-five (55) gallon drums are the only storage method used. Drums are placed on wooden pallets (four (4) per pallet) and set within the containment area on the same pallet to minimize handling and potential spills.

The types of waste stored at this facility fall mainly into the following categories:

E.P.A. WASTE NO.	DESCRIPTION
F001	Spent halogenated solvents used in degreasing.
F002	Spent halogenated solvents.
F003	Spent non-halogenated solvents.
F004	Spent non-halogenated solvents.
F005	Spent non-halogenated solvents.

It should be noted that this facility only accumulated these items from outside generators for storage until a truckload quantity can be built up to make it economically feasible to ship to a Recycling facility. None of the above mentioned items are generated as a waste on-site.

B. Maximum amount of waste inventory is 120 (55) gallon drums (6600 gallons).

C. Equipment:

1. Forklift
2. Pallets

D. Closure Schedule:

1. Removal of Inventory - Total time to schedule trucks into facility, load drummed material, and clean (if necessary), and remove containment area is anticipated at a maximum of five (5) days.

   Because this facility functions strictly as a storage facility with no transferring or treatment at the location, decontamination activities would not be anticipated to be necessary.

If for some unforeseeable reason it were discovered that decontamination was necessary, this would be accomplished simultaneously with other closure preparation so that shipment of decontaminated material could be shipped with inventory for recycling.

2. Removal Of Inventory:

All waste and waste containers will be sent to McKesson Envirosystems* (formerly Inland Chemical). We fully anticipate all materials in inventory at this facility to be capable of being recycled.

No pretreatment would be required before materials were readied for shipment. No treatment or disposal will occur at our location. Prior to loading, all drums are inspected for leakage, damage, and proper labeling. Proper manifest forms will be completed for the movement.

3. Facility Decontamination:

A. The floor of the diked containment area will be steam cleaned using water and the resulting residual placed in a 55 gallon drum for disposal.

B. Amount of waste generated from decontaminant, if required, would not exceed one (1) 55 gallon drum.

C. All wooden pallets used with waste storage would be shipped at the same time as inventory to be landfilled, if they were found to be unfit for further usage.

* or another permitted facility

Van Waters & Rogers Inc.
subsidiary of Univar

600 HUNTER DRIVE
OAK BROOK, IL 60521
PHONE (312) 573-4300

D H L

April 11, 1988

Ms. Sheryl Slone
Environmental Engineer
Division of Solid & Hazardous Waste Mgmt
Ohio EPA
Northeast District Office
2110 East Aurora Road
Twinsburg, OH 44087

RE: Van Waters & Rogers Inc.
Bedford Heights, Ohio
OHD 961 107 791
01-18-0628/G-T-TSD

Dear Ms. Slone:

Attached, per our conversation, is the Closure Plan for our Bedford Heights facility. This plan was prepared in accordance with Ohio EPA Closure Plan Review Guide dated February 8, 1988.

Please contact me if you have any questions or if you need additional information.

Very truly yours,

Robert Hickman

Robert D. Hickman
Regional Regulatory Manager

RDH:be

Attachments (3)

COPIES TO: U.S. EPA Region V Ohio Desk

CERTIFIED MAIL #P579-107-268
RETURN RECEIPT REQUESTED

Morton Levy
Russ Karney
M. S. Kirkland
Judy Cichowicz
File

A.4.3

Van Waters & Rogers Inc.
subsidiary of Univar

600 HUNTER DRIVE
OAK BROOK, IL 60521
PHONE (312) 573-4300

CERTIFIED MAIL #P086-769-333
RETURN RECEIPT REQUESTED

October 31, 1989

Director
Waste Management Division
U. S. Environmental Protection Agency
230 South Dearborn Street
Chicago, IL 60604

RE: Van Waters & Rogers Inc.
Bedford Heights, Ohio
OHD 071 107 791
Hazardous Waste Closure Report and Certification

Dear Director:

Pursuant to the requirements of 40 CFR Part 264.115, Van Waters & Rogers Inc. is submitting certification of final closure for the hazardous waste management unit and facility referenced above. It has been closed in accordance with an approved closure plan and meets the closure performance standard set forth in 40 CFR Part 264.111. The closure plan is contained in the facility's RCRA Part B permit for the storage of containerized hazardous wastes. The permit was issued on September 29, 1983.

Notice of our intent to begin closure was sent to the U. S. EPA on January 30, 1989. Closure activities began on March 30, 1989 and were completed on September 30, 1989. The attached report documents closure activities and contains the certifications of the facility owner/operator and an independent registered professional engineer.

If you have any questions regarding final closure of our hazardous waste storage unit and facility, or if you would like to arrange an inspection of the site, please feel free to call me ((312) 573-4340).

Very truly yours,

James P. Hooper

James P. Hooper
Regional Regulatory Manager
Central Region

JPH:be

Attachments

COPIES TO: J. F. Lacey
R. D. Hickman
R. Karney
T. Nisler
File

Van Waters & Rogers Inc.

CLOSURE REPORT
Bedford Heights, Ohio Facility

(40 CFR Part 265.110 through 115)
(OAC 3745-55-11 through 15)

The following discussion outlines the steps Van Waters and Rogers Inc. has taken to implement closure of the hazardous waste storage unit located at our Bedford Heights, Ohio facility. Closure activities have taken place in accordance with the regulations cited above.

Closure of the hazardous waste storage unit required notification of the U.S. Environmental Protection Agency (U.S. EPA) and the Ohio Environmental Protection Agency (OEPA) at least 45 days prior to the date of closure. Closure has been completed within 180 days from the start of closure activities. Van Waters and Rogers Inc., within 60 days of the completion of closure activities, is submiting to the OEPA and the U.S. EPA a certification by both Van Waters and Rogers Inc. and an independent registered professional engineer that the unit has been closed in accordance with the procedures and standards outlined in the approved closure plan. The certifications and the independent registered professional engineer's report follow the narrative of this report.

Van Waters and Rogers Inc. has discontinued operation of the hazardous waste storage unit as well as all other operations at

the facility. A new facility servicing the Cleveland metropolitan and surrounding areas has been built in Twinsburg, Ohio. The Twinsburg facility does not operate as a hazardous waste storage facility. The hazardous waste storage unit at the Bedford Heights facility has been cleaned and will be formally closed as soon as approval of our certification of closure is received from the appropriate regulatory authorities. It is the intention of Van Waters & Rogers Inc. to sell the Bedford Heights property for redevelopment when the facility has been formally closed.

MAXIMUM WASTE INVENTORY

The size of the entire facility is approximately 2.5 acres, of which only a small portion, 300 square feet, is used for storage of hazardous wastes. The storage unit is located adjacent to the outside wall of the northeast side of the warehouse (see Figure 1). The storage unit is 10 feet by 30 feet in size. All loading/unloading areas and the storage areas utilized for wastes are constructed of concrete, which is impervious to the types of hazardous wastes handled at this facility.

The types of hazardous wastes stored at this facility fall into the following categories:

E.P.A. Waste Code	Description
F001	Spent halogenated solvents; tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, and chlorinated fluorocarbons.

F002	Spent halogenated solvents; tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, orthodichlorobenzene, trichlorofluoromethane.
F003	Spent non-halogenated solvents; xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol.
F004 *	Cresols and cresylic acid, and nitrobenzene.
F005	Spent non-halogenated solvents; toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, and benzene.
D001	Ignitable wastes (non-specific); isopropanol, ethanol, or glycol ethers.

* F004 wastes were never stored at the Bedford Heights facility.

This facility stored only containerized (55 gallon drums) solvent wastes from off-site generators and our own solvent wastes created during repackaging operations. The permitted maximum inventory is 120 containers or approximately 6,600 gallons of hazardous waste. The equipment used for handling hazardous waste at the facility is a fork lift truck and pallets.

Van Waters & Rogers Inc. has not stored waste at the Bedford Heights facility since it received the Part B permit from the Ohio Hazardous Waste Facility Board on July 18, 1985. The facility was able to operate the hazardous waste portion of the business without storage capability, acting solely as a generator and a transporter. Hazardous wastes generated by Van Waters & Rogers Inc. are manifested to a permitted treatment/disposal facility within 90 days of their generation, and hazardous wastes

generated by customers are transported by Van Waters & Rogers Inc. directly from the customer's property to a permitted treatment/disposal facility.

On October 31, 1986 the facility's operations were moved to the new Twinsburg, Ohio facility. Anticipating an expansion of the hazardous waste business, the Bedford Heights facility and the hazardous waste storage unit were kept operational, though not used. Further study of the future of the hazardous waste business indicated that the Twinsburg facility could operate as a transporter only and did not need storage capability. Thus, the decision to close the Bedford Heights facility.

INVENTORY REMOVAL / DECONTAMINATION

Procedures developed by Van Waters and Rogers Inc. for managing waste materials are designed to ensure the hazardous waste management unit complies with applicable laws and regulations, and to prevent threats to human health and the environment. The goal is to assure that the unit upon closure is "clean" and will not require any post-closure maintenance. This operating goal minimizes closure activities and eliminates the need for post-closure requirements.

Leakage of hazardous waste from containers into the secondary containment system is controlled immediately upon discovery by placing the leaking container into a secure recovery drum. The recovery drum is of the proper specification for the waste. All materials contaminated by the leak are containerized. The containment area is cleaned after removal of the leaking

container and contaminated materials. Waste collected during decontamination activities is containerized, labeled and transported to a permitted treatment/disposal facility. Incidents of spills and/or leaks are reported as required by applicable regulations and documented as part of the facility operating record.

Because the hazardous waste management unit functioned solely to store hazardous wastes in containers, extensive decontamination activities were not anticipated to be necessary at closure. The approved closure plan called for decontamination activities to include several applications of pressurized steam cleaning of the storage unit and equipment, laboratory analysis of the rinsate from the steam cleaning to determine if it was contaminated, disposal of pallets used for hazardous waste storage, and proper disposal of the rinsate from steam cleaning.

Decontamination of the storage area was handled by an outside contractor with oversight from a registered professional engineer. The extent of decontamination activities was governed by the approved closure plan, a review of the facility's operating record, and a visual inspection of the waste storage area. The operating record was reviewed for events of leakage, and the visual inspection looked for discoloration, corrosion, and cracks. The operating record indicates there was once a loss of approximately 1 gallon of waste solvent from a drum stored in the hazardous waste management unit. The leak was contained in the storage unit. The visual inspection of the unit revealed no

extraordinary discoloration, corrosion, or cracks in the secondary containment system. Hairline stress cracks, and cracks at seams and joints noted during the visual inspection were deemed minor and did not compromized the integrity of the secondary containment system. There was no need for a soil sampling plan to be developed to test for contamination beneath and around the storage unit.

The hazardous waste storage unit was steam cleaned on ~~July 19~~ March 30, 1989. The storage unit was cleaned three times. Cleaning the storage unit took approximately six hours. The rinsate from the cleaning was collected in a 55-gallon drum and analyzed to establish levels of contaminants. Approximately 40 gallons of rinsate was generated during steam cleaning activities.

The rinsate from the final cleaning was analyzed for the hazardous constituents known to be in the types of hazardous waste stored in the waste storage unit. The rinsate was uncontaminated. The results of the laboratory analysis of the rinsate are included in the engineer's report. Photographs of the steam cleaning operation also are included in the engineer's report.

The definition of "clean" was defined as hazardous constituents in non-detectable quantities using standard laboratory detection limits. The contaminants tested for included the solvents handled by the facility (which are covered in 40 CFR Part 268.41 Table CCWE for F001 - F005 wastes).

During closure activities a small purple colored stain on

the surface of the concrete was noticed. It was suspected that the stain may have been pigment that leaked from the drum of waste solvent. As noted earlier in this report, the facility's operating record recorded a small leak of waste solvent. The Bedford Heights facility transported and stored hazardous waste from several customers that were ink manufacturers. The stain was limited to the surface of the concrete. It was removed by chipping the concrete and collecting it in a sample jar for analysis. Laboratory analysis showed the stain did not contain elevated levels of heavy metals that are often associated with pigments. The laboratory analysis of the stain is included in the engineer's report.

SCHEDULE for CLOSURE

All waste materials have been removed from the unit and the unit decontaminated and closed within the time frame shown on the chart labeled as Table 1.

POST-CLOSURE PLANS

Post closure plans are not applicable to hazardous waste storage facilities.

NOTICE in DEED

Because this location functions only as a temporary storage facility, notation is not needed on the deed to inform potential purchasers of the use of this property for that purpose.

Van Waters and Rogers Inc.

CERTIFICATION

(40 CFR Part 264.115)
(OAC 3745-55-15)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

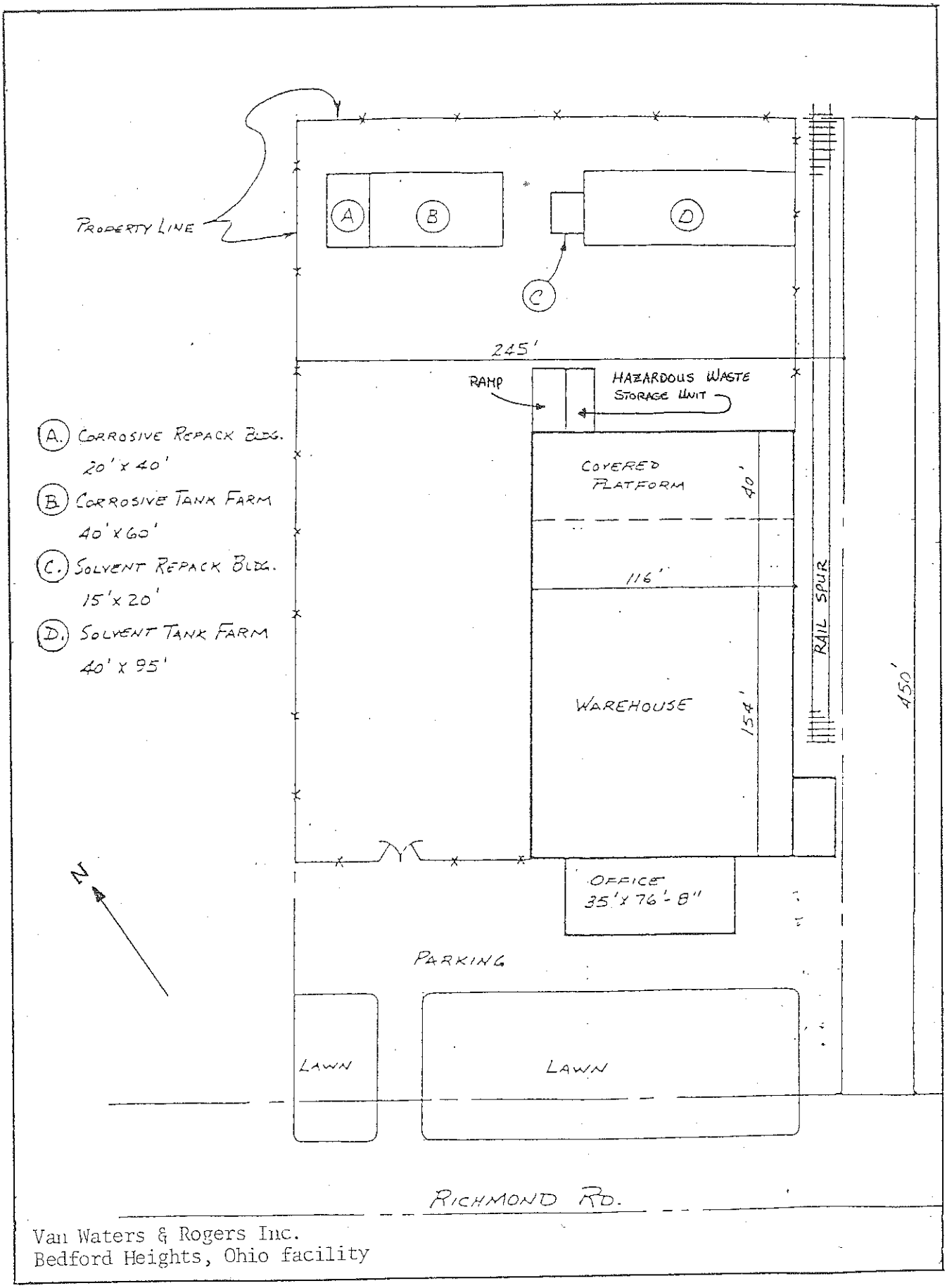
On behalf of Van Waters & Rogers Inc., I certify that the hazardous waste management unit located at our Bedford Heights, Ohio facility (OHD071107791) has been closed in accordance with the specifications in the approved closure plan.

Name: James F. Lacey

James F. Lacey
Regional Vice President

Date: 10-31-89

Figure 1



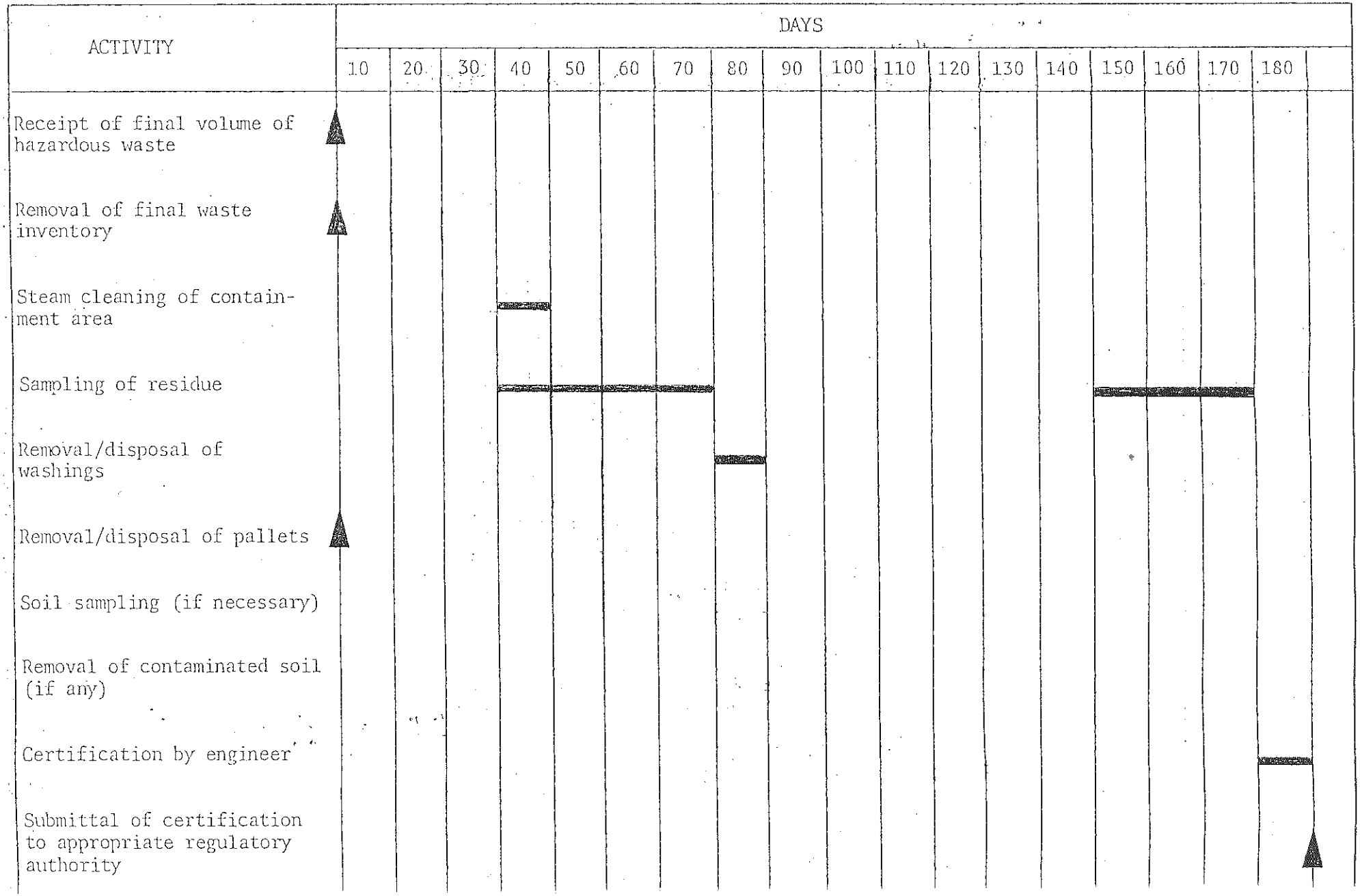
Van Waters & Rogers Inc.
Bedford Heights, Ohio facility

Van Waters & Rogers Inc.

Table 1

ACTUAL CLOSURE SCHEDULE

Bedford Heights, Ohio Facility



McKesson Corp. Law Department
One Post Street San Francisco CA 94104 (415) 983-

Janet K. Martinez Counsel

OHD 071 107791

June 27, 1986

McKesson

Office of the Regional Administrator
Environmental Protection Agency
Region V
Federal Building
230 South Dearborn
Chicago, IL 60604

Re: Federal Financial Requirements
Hazardous Waste TSD Facilities

Dear Sir or Madam:

On behalf of McKesson Corporation and its wholly-owned subsidiaries (the "McKesson Group") we hereby submit the enclosed documents to meet the financial test and to demonstrate the financial responsibility of the McKesson Group under the standards of the Environmental Protection Agency applicable to owners and operators of hazardous waste treatment, storage and disposal facilities.

1. The letter of Alan J. Seelenfreund, Vice President and Chief Financial Officer of McKesson Corporation ("McKesson");

2. The Annual Report of McKesson Corporation for the fiscal year ended March 31, 1986, which report contains the independent certified public accountants' report on the financial statements of the McKesson Group; and

3. The special report of Deloitte Haskins + Sells to the effect specified in the regulations.

The facilities owned by the McKesson Group are either operated by McKesson Chemical Company (a division of McKesson) or McKesson Envirosystems Company (a wholly-owned subsidiary of McKesson). With respect to the facilities owned and operated by McKesson Chemical Company, we are submitting this material to satisfy both the requirements for liability coverage, and

closure care. Note further that the figure indicating the sum of closure cost estimates is an aggregate of the estimates for the facilities in all EPA regions -- although only the specific facilities in your state are listed in Mr. Seelenfreund's letter.

I trust that you will find all of the enclosed material to be in order; however, should you have questions or require further information or details, kindly address all inquiries on this matter to me. Thank you very much.

Very truly yours,

Janet K. Martinez
Counsel

JKM:sh

Enclosures

June 27, 1986

McKesson

Office of the Regional Administrator
Environmental Protection Agency
Region V
Federal Building
230 South Dearborn
Chicago, IL 60604

Re: McKesson Corporation Financial Tests
for Liability Coverage and Closure Cost Care

Dear Sir or Madam:

I am the Chief Financial Officer of McKesson Corporation ("McKesson") located at One Post Street, San Francisco, California 94104. This letter is in support of the use of the financial test to demonstrate financial responsibility for liability coverage and closure as specified in Subpart H of 40 CFR Parts 264 and 265.

The owner or operator identified above is the owner or operator of the following facilities for which liability coverage is being demonstrated through the financial test specified in Subpart H of 40 CFR Parts 264 and 265:

*See Exhibit "A" attached hereto and fully incorporated herein by reference.

1. The owner or operator identified above owns or operates the following facilities for which financial assurance for closure or post-closure care is demonstrated through the financial test specified in Subpart H of 40 CFR Parts 264 and 265. The current closure and/or post-closure cost estimates covered by the test are shown for each facility:

*See Exhibit "B" attached hereto and fully incorporated herein by reference.

2. The owner or operator identified above guarantees through the corporate guarantee specified in Subpart H of 40 CFR Parts 264 and 265, the closure and post-closure care of the following facilities owned or operated by its subsidiaries. The current cost estimates for the closure or post-closure care so guaranteed are shown for each facility.

*See Exhibit "C" attached hereto and fully incorporated herein by reference.

3. In states where EPA is not administering the financial requirements of Subpart H of 40 CFR Parts 264 and 265, this owner or operator is demonstrating financial assurance for the closure or post-closure care of the following facilities through the use of a test equivalent or substantially equivalent to the financial test specified in Subpart H of 40 CFR Parts 264 and 265. The current closure and/or post-closure cost estimates covered by such a test are shown for each facility:

*See Exhibit "D" attached hereto and fully incorporated herein by reference.

4. The owner or operator identified above owns or operates the following hazardous waste management facilities for which financial assurance for closure or, if a disposal facility, post-closure care, is not demonstrated either to EPA or a state through the financial test or any other financial assurance mechanism specified in Subpart H of 40 CFR Parts 264 and 265 or equivalent or substantially equivalent state mechanisms. The current closure and/or post-closure cost estimates not covered by such financial assurance are shown for each facility:

*None.

This owner or operator is required to file a Form 10K with the Securities and Exchange Commission ("SEC") for the latest fiscal year.

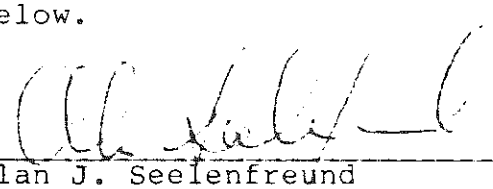
The fiscal year of this owner or operator ends on March 31. The figures for the following items marked with an asterisk are derived from this owner or operator's independently

audited, year-end financial statements for the latest completed fiscal year ended March 31, 1986:

ALTERNATIVE II

1.	Sum of current closure and post-closure cost estimates. (total of all cost estimates listed above)	$1,527,706
2.	Amount of annual aggregate liability coverage to be demonstrated.	$2,000,000
3.	Sum of lines 1 and 2.	$3,527,706
4.	Current bond rating of most recent issuance and name of rating service.	Moody's A3
5.	Date of issuance of bond.	February 21, 1986
6.	Date of maturity of bond.	February 15, 1991
*7.	Tangible Net Worth.	$376,000,000
*8.	Total assets in the U.S.	N/A
9.	Is line 7 at least $10 million?	Yes
10.	Is line 7 at least 6 times line 3?	Yes
*11.	Are at least 90% of assets located in the U.S.?	Yes
12.	Is line 8 at least 6 times line 3?	N/A

I hereby certify that the wording of this letter is identical to the wording specified in 40 CFR 264.151(g) as such regulations were constituted on the date shown immediately below.



Alan J. Seelenfreund
Vice President and Chief Financial Officer
McKesson Corporation

June 27, 1986

AJS:sh

EPA REGION V

Facility Address	EPA #
Cincinnati - 3025 Exon Avenue Evendale, Cincinnati, OH 45241	#OHD002899847
Cleveland - 26601 Richmond Road Bedford Heights, OH 44146	#OHD071107791
Detroit - 27001 Trolley Industrial Drive Taylor, MI 48180	#MID010861524
Grand Rapids 7025 Dutton Industrial Drive Dutton, MI 49316	#MID980681696
Bloomington - 2010 N. Eagle Road Normal, IL 61761	#ILD000781633
Chicago Heights - P.O. Box 456 Chicago Heights, IL 60411	#ILD047029228
Milwaukee (West Allis) P.O. Box 14545 Milwaukee, WI 53214 1707 S. 101st Street West Allis, WI	#WID040784936
Minneapolis - 111 22nd Avenue, NE Minneapolis, MN 55418	#MND054497052
Schaumburg - 2055 Hammond Drive Schaumburg, IL 60195	#ILD000819938
633 East 138th Street Dolton, IL 60419	#ILD980613913

The Dolton facility listed above is operated by McKesson Envirosystems Company, a wholly-owned subsidiary of McKesson Corporation.

EXHIBIT "A"

EPA REGION V

Facility Address	EPA #	Closure/Post-Closure Cost Estimates
Cincinnati - 3025 Exon Avenue Evendale, Cincinnati, OH 45241	#OHD002899847	$ 11,521
Cleveland - 26601 Richmond Road Bedford Heights, OH 44146	#OHD071107791	$ 12,565
Detroit - 27001 Trolley Industrial Drive Taylor, MI 48180	#MID010861524	$ 12,441
Grand Rapids 7025 Dutton Industrial Drive Dutton, MI 49316	#MID980681696	$ 12,414
Bloomington 2010 N. Eagle Road Normal, IL 61761	#ILD000781633	$ 15,828
Chicago Heights - P.O. Box 456 Chicago Heights, IL 60411	#ILD047029228	$ 13,132
Milwaukee (West Allis) P.O. Box 14545 Milwaukee, WI 53214 1707 S. 101st Street West Allis, WI	#WID040784936	$ 10,371
	carried over	$ 88,272

EXHIBIT "B"

EPA REGION V CONTINUED

Facility Address	EPA #	Closure/Post-Closure Cost Estimates
	brought forward	$ 88,272
Schaumburg 2055 Hammond Drive Schaumburg, IL 60195	#ILD000819938	$ $17,017
633 East 138th Street Dolton, IL 60419	#ILD980613913	$ 131,000
111 22nd Avenue, NE Minneapolis, MN 55418	#MND054497052	$ 17,017
		$ 253,306

The Dolton facility listed above is operated by McKesson Envirosystems Company, a wholly-owned subsidiary of McKesson Corporation.

EXHIBIT "B"

EXHIBIT "C"

KENTUCKY

Facility Address	EPA #	Closure/Post-Closure Cost Estimates
State Highway #146 P. O. Box 387 New Castle, KY 40050	#KYD053348108	$255,000

The New Castle facility above is owned and operated by McKesson Envirosystems Company, a California corporation and wholly-owned subsidiary of McKesson Corporation.

EXHIBIT "D"

EPA REGION II

Facility Address	EPA #	Closure/Post-Closure Cost Estimates
1. Woodbridge/Bulk Plant P.O. Drawer J Avenel, NJ 07001 160 Essex Avenue, East	#NJD063143754	$ 1,182
2. 504-508 Doremus Avenue Newark, NJ	#NJD002153922	$ 151,000
3. 400 Bear Street Syracuse, NY	#NYD075806836	$ 63,000
4. KM #51, Highway #2 Post Office Box 298 Manati, Puerto Rico	#PRD090399718	$ 354,000
5. KM #26.7, Highway #2 Dorado, Puerto Rico 00646 P.O. Box 1098 Manati, Puerto Rico 00701	#PRD981187421	$ 75,000
	TOTAL	$ 644,182

Facilities 2 and 3 above are owned and operated by McKesson Envirosystems Company, a California corporation and wholly-owned subsidiary of McKesson Corporation. Facilities 4 and 5 are operated by McKesson Envirosystems Company of Puerto Rico, Inc. which, in turn, is a wholly-owned subsidiary of McKesson Envirosystems Company.

EPA REGION V

Facility Address	EPA #	Closure/Post-Closure Cost Estimates
Cincinnati - 3025 Exon Avenue Evendale, Cincinnati, OH 45241	#OHD002899847	$ 11,521
Cleveland - 26601 Richmond Road Bedford Heights, OH 44146	#OHD071107791	$ 12,565
Detroit - 27001 Trolley Industrial Drive Taylor, MI 48180	#MID010861524	$ 12,441
Grand Rapids 7025 Dutton Industrial Drive Dutton, MI 49316	#MID980681696	$ 12,414
Bloomington 2010 N. Eagle Road Normal, IL 61761	#ILD000781633	$ 15,828
Chicago Heights - P.O. Box 456 Chicago Heights, IL 60411	#ILD047029228	$ 13,132
Milwaukee (West Allis) P.O. Box 14545 Milwaukee, WI 53214 1707 S. 101st Street West Allis, WI	#WID040784936	$ 10,371
	carried over	$ 88,272

EPA REGION V CONTINUED

Facility Address	EPA #	Closure/Post-Closure Cost Estimates
	brought forward	$ 88,272
Schaumburg 2055 Hammond Drive Schaumburg, IL 60195	#ILD000819938	$ $17,017
633 East 138th Street Dolton, IL 60419	#ILD980613913	$ 131,000
111 22nd Avenue, NE Minneapolis, MN 55418	#MND054497052	$ 17,017
		$ 253,306

The Dolton facility listed above is operated by McKesson Envirosystems Company, a wholly-owned subsidiary of McKesson Corporation.

EPA REGION VII

Facility Address	EPA #	Closure/Post-Closure Cost Estimates
Kansas City - 2000 Guinotte Avenue Kansas City, MO 64120	MOD007158157	$ 14,065
Omaha - P.O. Box 7341 3900 "D" Street Omaha, NE 68107	NED040906729	$ 11,910
St. Louis (Berkeley - P.O. Box 5953 8925 Seeger Industrial Drive Berkeley, MO 63134	MOD084396985	$ 12,070
Springfield - M.P.O. Box 670 220 S. Barnes Avenue Springfield, MO 65801	MOD000823229	$ 15,090
Wichita - P.O. Box 2280 2041 N. Mosley Avenue Wichita, KS 67201	KSD000809715	$ 11,709
Burlington - P.O. Box 159 Burlington, IA 52601		
--Silver Street	IAT200010916	$ 8,006
	TOTAL:	$ 72,850

ARKANSAS

Facility Address	EPA #	Closure/Post-Closure Cost Estimates
Little Rock - P.O. Box 826 Jacksonville, AR 72076	#ARD071245401	$ 13,325
Fayetteville - 701 Government Road Fayetteville, AR 72701	#ARD000709253	$ 6,897
	TOTAL	$ 20,222

CALIFORNIA

Facility Address	EPA #	Closure/Post-Closure Cost Estimates
Los Angeles Branch 5353 Jillson Street Los Angeles, CA 90040	#CAD020745246	$ 14,398
Bulk Plant 9005 Sorensen Avenue Santa Fe Springs, CA 90670	#CAD060395753	$ 10,720
S.F. Bay Branch 33950 7th Street Union City, CA 94587	#CAD073934903	$ 26,004
	TOTAL:	$ 51,122

Region IX of the USEPA says to continue to direct the financial assurance letter to the CA DHS, despite the EPA's having withdrawn California's authorization.

FLORIDA

Facility Address	EPA #	Closure/Post-Closure Cost Estimates
Route 3, Box 498A Tampa, FL 33619	#FLD020985727	$ 11,153
	TOTAL	$ 11,153

GEORGIA

Facility Address	EPA #	Closure/Post-Closure Cost Estimates
2180 Irvindale Drive Chamblee Atlanta, GA 30366	#GAD072472707	$ 9,769
Columbia Nitrogen Drive Augusta, GA 30903	#GAD000828269	$ 10,090
	TOTAL	$ 19,859

ILLINOIS

Facility Address	EPA #	Closure/Post-Closure Cost Estimates
Bloomington 2010 N. Eagle Road Normal, IL 61761	#ILD000781633	$ 15,828
Chicago Heights P.O. Box 456 Chicago Heights, IL 60411	#ILD047029228	$ 13,132
Schaumburg 2055 Hammond Drive Schaumburg, IL 60195	#ILD000819938	$ 11,454
633 East 138th Street Dolton, IL 60419	#ILD980613913	$ 136,000
	TOTAL:	$ 176,414

The Dolton facility listed above is operated by McKesson Envirosystems Company, a wholly-owned subsidiary of McKesson Corporation.

KANSAS

Facility Address	EPA #	Closure/Post-Closure Cost Estimates
Wichita - P.O. Box 2280 2041 N. Mosley Avenue Wichita, KS 67201	KSD000809715	$ 11,709
	TOTAL:	$ 11,709

KENTUCKY

Facility Address	EPA #	Closure/Post-Closure Cost Estimates
Louisville P. O. Box 19409 Louisville, KY 40219	#KYD042593368	$ 12,154
State Highway #146 P. O. Box 387 New Castle, KY 40050	#KYD053348108	$255,000
	TOTAL	267,154

The New Castle facility above is owned and operated by McKesson Envirosystems Company, a California corporation and wholly-owned subsidiary of McKesson Corporation.

MICHIGAN

Facility Address	EPA #	Closure/Post-Closure Cost Estimates
1. Detroit - 27001 Trolley Industrial drive Taylor, Michigan 48180	#MID010861524	$ 12,441
2. Grand Rapids 7025 Dutton Industrial Drive Dutton, Michigan	#MID980681696	$ 12,414
	TOTAL	$ 24,855

MINNESOTA

Facility Address	EPA #	Closure/Post-Closure Cost Estimates
111 - 22nd Avenue, N.E. Minneapolis, Minnisota 55418	MND0544987052	$ 17,017

MISSOURI

Facility Address	EPA #	Closure/Post-Closure Cost Estimates
Kansas City - 2000 Guinotte Avenue Kansas City, MO 64120	MOD007158157	$ 14,065
St. Louis (Berkeley - P.O. Box 5953 8925 Seeger Industrial Drive Berkeley, MO 63134	MOD084396985	$ 12,070
Springfield - M.P.O. Box 670 220 S. Barnes Avenue Springfield, MO 65801	MOD000823229	$ 15,090
	TOTAL:	$ 41,225

OREGON

Facility Address	EPA #	Closure/Post-Closure Cost Estimates
4488 N.W. Yeon Portland, Oregon	#ORD049799232	$ 10,115

NEBRASKA

Facility Address	EPA #	Closure/Post-Closure Cost Estimates
Omaha - P.O. Box 7341 3900 "D" Street Omaha, NE 68107	NED040906729	$ 11,910
	TOTAL:	$ 11,910

NEW MEXICO

Facility Address	EPA #	Closure/Post-Closure Cost Estimates
Albuquerque Stockpoint 121 Dale Avenue Albuquerque, NM 87102	#NMDO80370785	$ 18,164
	TOTAL:	$ 18,164

NORTH CAROLINA

Facility Address	EPA #	Closure/Post-Closure Cost Estimates
Wendover Avenue Greensboro, NC 27420	#NCD089903983	$ 10,002
4901 Brookshire Blvd. Charlotte, NC 28208	#NCD024481848	$ 9,777
	TOTAL	$ 19,779

OHIO

Facility Address	EPA #	Closure/Post-Closure Cost Estimates
1. 3025 Exon Avenue Evendale Cincinnati, Ohio 45241	#OHD002899847	$ 11,521
2. Cleveland 26601 Richmond Road Bedford Heights, Ohio 44146	#OHD071107791	$ 12,565
		$ 24,086

SOUTH CAROLINA

Facility Address	EPA #	Closure/Post-Closure Cost Estimates
Camp Croft Industrial Park Spartanburg, SC 29302	#SCD008941619	$ 16,019
	TOTAL	$ 16,019

TENNESSEE

Facility Address	EPA #	Closure/Post-Closure Cost Estimates
Memphis - 3909 Outland Road Memphis, TN 38118	#TND096074901	$ 12,209
Ridgefield's Industrial Park Kingsport, TN 37662	#TND000822973	$ 18,460
One Riverside Lane Chattanooga, TN 37421	#TND000737445	$ 17,001
	TOTAL	$ 47,670

TEXAS

Facility Address	EPA #	Closure/Post-Closure Cost Estimates
Houston Branch 6012 Murphy Street Houston, TX 77031	TXD039822432	$ 30,523

Deloitte
Haskins+Sells

44 Montgomery Street
San Francisco, California 94104-4602
(415) 393-4300
Telex 340336

McKesson Corporation: June 27, 1986

We have examined the consolidated financial statements of McKesson Corporation for the year ended March 31, 1986, and have issued our opinion thereon dated May 23, 1986. Our examination was made in accordance with generally accepted auditing standards and, accordingly, included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances. We have not performed any auditing procedures beyond the date of our opinion on the consolidated financial statements; accordingly, this letter is based on our knowledge as of that date and should be read with that understanding.

At your request, we have performed the procedures described below with respect to the accompanying letter dated June 27, 1986 from Mr. Alan J. Seelenfreund, Vice President and Chief Financial Officer, McKesson Corporation. It is understood that this report is solely for filing with the agencies listed in the Appendix to this letter in accordance with requirements of Subpart H of 40 CFR Parts 264 an 265 or similar state requirements, and is not to be used for any other purpose. The procedures that we performed are summarized as follows:

> We recomputed from, or reconciled to, the consolidated financial statements referred to in the first paragraph the information included in items 7, 8 and 11 under the caption Alternative II in the letter referred to above.

Because the procedures referred to in the preceding paragraph were not sufficient to constitute an examination made in accordance with generally accepted auditing standards, we do not express an opinion on any of the information or amounts listed under the caption Alternative II in the aforementioned letter. In performing the procedures referred to above, however, no matters came to our attention that caused us to believe that the information or amounts included in items 7, 8 and 11 should be adjusted.

Yours truly,

Deloitte Haskins & Sells

APPENDIX

Agencies receiving filings dated June 27, 1986 from Mr. Alan J. Seelenfreund, Vice President and Chief Financial Officer of McKesson Corporation, in accordance with Subpart H of 40 CFR Parts 264 and 265 or similar state requirements:

Environmental Protection Agency, Region II
Environmental Protection Agency, Region V
Environmental Protection Agency, Region VII
Arkansas Department of Pollution Control and Ecology
California Department of Health Sciences,
Toxic Substances Control Division
Florida Department of Environmental Regulation
Georgia Department of Natural Resources,
Environmental Protection Division
Illinois Environmental Protection Agency
Kansas Department of Health and Environment,
Bureau of Waste Management
Michigan Department of National Resources,
Hazardous Waste Division
Minnesota Pollution Control Agency,
Solid and Hazardous Waste Division
Nebraska Department of Environmental Control,
Hazardous Waste Section
New Mexico Environmental Improvement Division
North Carolina Department of Human Resources
Ohio Environmental Protection Agency
Oregon Department of Environmental Quality, Hazardous and Solid Waste Division
South Carolina Department of Health and Environmental Control, Bureau of Solid and Hazardous Waste Management
Tennessee Department of Health and Environment
Texas Water Commission, Hazardous Waste and Solid Waste Division

RESPONSIBILITY FOR FINANCIAL STATEMENTS

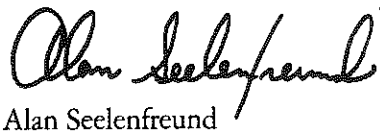
McKesson Corporation is responsible for the preparation and accuracy of the financial statements and other information included in this report. The financial statements have been prepared in conformity with generally accepted accounting principles using, where appropriate, management's best estimates and judgments.

In meeting its responsibility for the reliability of the financial statements, the company depends on its system of internal accounting control. The system is designed to provide reasonable assurance that assets are safeguarded and that transactions are executed as authorized and are properly recorded. The system is augmented by written policies and procedures and an internal audit department.

Deloitte Haskins & Sells, the company's independent auditors, have examined the financial statements in accordance with generally accepted auditing standards, and their opinion appears to the right.

The Board of Directors reviews the financial statements and reporting practices of the company through its Audit Committee, which is composed entirely of directors who are not officers or employees of the company. The committee meets regularly with the independent auditors, internal auditors and management to discuss audit scope and results and to consider internal control and financial reporting matters. Both the independent and internal auditors have unrestricted access to the Audit Committee.

Neil E. Harlan
Chairman and
Chief Executive Officer



Alan Seelenfreund
Vice President and
Chief Financial Officer

Opinion of Independent Auditors

Deloitte Haskins + Sells

The Stockholders and Board of Directors
of McKesson Corporation:

We have examined the consolidated balance sheets of McKesson Corporation and subsidiaries as of March 31, 1986, 1985 and 1984 and the related statements of consolidated income, changes in consolidated stockholders' equity and changes in consolidated financial position for the years then ended. Our examinations were made in accordance with generally accepted auditing standards and, accordingly, included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, such consolidated financial statements present fairly the financial position of the companies at March 31, 1986, 1985 and 1984 and the results of their operations and the changes in their financial position for the years then ended, in conformity with generally accepted accounting principles applied on a consistent basis.

San Francisco, California 94104
May 23, 1986